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135 South Jackson Street
Independence, CA 93526

COUNTY OF INYO
WATER DEPARTMENT

April 1, 2011

TO: Board of Supervisors
Planning Commission
Water Commission

FROM: Bob Harrington, Water Department Director

SUBJECT: Addendum to the Hydrologic Monitoring and Mitigation Plan for Conditional Use Permit #2007-003/Coso Operating Company, LLC.

Attached is an Addendum to the Hydrologic Monitoring and Mitigation Plan (HMMP) for Conditional Use Permit #2007-003/Coso Operating Company, LLC. Coso Operating Company's project, which was permitted in May 2009, allows Coso Operating Company to pump groundwater from their property in Rose Valley and transfer the water to their geothermal power generating facility, where they inject the water into the geothermal reservoir. Groundwater pumping for the project began in December, 2009.

The HMMP and Conditional Use Permit require that after one year of groundwater pumping, the groundwater model developed during the permitting process for the project is to be recalibrated and used to revise the groundwater level triggers, pumping rate, and duration of pumping. The Addendum documents this work, and presents revised groundwater level triggers, pumping rate, and duration of pumping that have been approved by the Water Department. The recalibrated model incorporates information and observations from the first year of the project into the groundwater model, thereby making the model more reliable and representative of the Rose Valley groundwater system's response to pumping. In revising the pumping rate, duration, and triggers, the same standards for assessing significant impacts were used as were used during the permitting process. The attached HMMP Addendum also documents other mitigation activities undertaken during the initial phases of the project.

In the Addendum, the Water Department approves a pumping rate of 4,839 acre-feet per year, for 2 years 8 months beginning on January 1, 2011. Revised groundwater level triggers based on this rate and duration are presented in the Addendum. Although the revised groundwater level triggers allow more drawdown than those developed during the permitting process, the revised triggers were

developed with an improved model, and do not change the standard used to evaluate significant impacts, thereby providing a protective monitoring and mitigation mechanism. The Water Department's approval is based on the following considerations.

- The approved pumping rate, maximum acceptable drawdowns, groundwater level triggers, and duration of pumping comply with the requirements of the Conditional Use Permit and the HMMP.

- The data available prior to the start of the project were limited to conditions of little or no groundwater pumping. Recognizing this, the HMMP required that the groundwater model would be modified and used to revise the groundwater level triggers, pumping rate, and duration of pumping after one year of pumping. The recalibration of the model resulted in a model that is better able to reproduce observed aquifer responses in the past, thereby increasing the reliability of the model for predicting aquifer responses in the future.

- The approved pumping rate is most consistent with the Conditional Use Permit's provision that after the first year of operation, the Coso Operating Company would be allowed to pump at the full proposed rate; however, groundwater level triggers and the duration of pumping may be modified to avoid significant impacts. Although the Addendum allows pumping to proceed at the full proposed rate of 4,839 acre-feet per year, because the short duration of pumping (2.7 years), it results in the least total groundwater extraction of the scenarios evaluated during the model recalibration process.

- The revisions of the pumping rate, maximum acceptable drawdowns, groundwater trigger levels, and pumping durations do not cause new significant environmental impacts or increase the impacts of the Project identified in the EIR.

Cc: R. Keller, County Counsel
D. Crom, Deputy County Counsel
K. Carunchio, County CAO
J. Hart, County Planning Director
T. Gretz, County Senior Planner
G. James, Attorney for Inyo County
C. Ellis, General Manager, Coso Operating Company
W. Pachuki, TEAM Engineering and Management, Inc.
G. Arnold, Little Lake Ranch
V. Moose, Big Pine Paiute Tribe of the Owens Valley
S. McLaughlin, Bristlecone Chapter, California Native Plant Society

DEPARTMENT OF TRANSPORTATION
DISTRICT 9
500 SOUTH MAIN STREET
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May 24, 2012

Peter Godfrey, California Desert District
Bureau of Land Management (BLM)
22835 Calle San Juan De Los Lagos
Moreno Valley, California 92553

File: Iny-395-17.87
DEIS
SCH #: none

Dear Mr. Godfrey:

Haiwee Geothermal Leasing Area - Draft Environmental Impact Statement (DEIS)

The California Department of Transportation (Caltrans) District 9 appreciates the opportunity to review the DEIS for geothermal land leasing in southern Inyo County. We have the following comments:

- The only US 395 access noted is via Sykes Road and Gil Station-Coso Road - west and east respectively at the US 395 median crossover (post mile 17.87), both of which are County roads. It appears another possible US 395 access is at postmile 20.35 (east). This is not a County road and we find no record of an encroachment permit. If to be used, an encroachment permit, which will also ensure current standards are met, is required. Please see:

  Encroachment Permit Application:
  http://www.dot.ca.gov/hq/traffops/developserv/permits/pdf/forms/Std._E.P._Application_(TR-0100).pdf

  Encroachment Permit Instructions:
  http://www.dot.ca.gov/hq/traffops/developserv/permits/pdf/forms/encrchpermt_instruc.pdf

  For further information please contact Kurt Weierman at (780) 872-0781 or kurt_weiermann@dot.ca.gov.

- Page 4-180 states that the Inyo Regional Transportation Plan includes reconstruction of Gil Station-Coso Road. Funding for this project, which was noted to "help mitigate impacts," has been transferred elsewhere. Thus, you should consult with Inyo County regarding roadway impacts/mitigation.

Please continue to forward project information. We value a cooperative working relationship with the BLM in the high desert area. For any questions, you may call me at (760) 872-0785.

Sincerely,

Gayle J. Rosander

GAYLE J. ROSANDER
IGR/CEQA Coordinator

c: Joshua Hart, Inyo County
Mark Reistetter, Caltrans

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net

June 4, 2012

Mr. Jeff Childers, Environmental Planner
United States Department of the Interior
Bureau of Land Management
300 S. Richmond Road
Ridgecrest, CA 93555

Re: SCH#2012054003; NEPA Notice; draft Environmental Impact Statement (DEIS) for the **"Haiwee Geothermal Leasing Area (HGLA) DEIS/CALIFORNIA desert Conservation Area (CDCA) Plan Project;"** located on 22,805-acres east of the Inyo National Forest , west of the China Lake Naval Air Weapons Station, south of the the South Haiwee Reservoir and north of Little Lake; southern Inyo County, California.

Dear Mr. Childers:

The Native American Heritage Commission (NAHC) is the California State 'Trustee Agency' pursuant to Public Resources Code §21070 for the protection of California's Native American Cultural Resources. The NAHC is also a 'reviewing agency' for environmental documents prepared under the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq*), 36 CFR Part 800.3, .5 and are subject to the Tribal and interested Native American consultation as required by the National Historic Preservation Act, as amended (Section 106) (16 U.S.C. 470; Section 106 [f] 110 [f] [k], 304). The provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001-3013) and its implementation (43 CFR Part 10.2), and California Government Code §27491 may apply to this project if Native American human remains are inadvertently discovered.

The NAHC is of the opinion that the federal standards, pursuant to the above-referenced Acts and the Council on Environmental Quality (CSQ; 42 U.S.C. 4371 *et seq*) are similar to and in many cases more stringent with regard to the 'significance' of historic, including Native American items, and archaeological, including Native American items at least equal to the California Environmental Quality Act (CEQA.). In most cases, federal environmental policy require that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Statement (EIS).

The NAHC conducted a Sacred Lands File (SLF) search of its Inventory determined that Native American Cultural Resources **were identified** in several of the USGS coordinates of the project area you specified in Page ES-iii; early and quality consultation with the Native American representatives on the attached list may provide detailed information of sites with which they are aware. Also note that the absence of archaeological resources does not preclude their existence, particularly at the subsurface level.

The NAHC Sacred Lands File Inventory of the Native American Heritage Commission is established by the California Legislature pursuant to California Public Resources Code §§5097.94(a) and 5097.96. The NAHC Sacred Lands Inventory is populated by submission to the data by Native American tribes and Native American elders. In this way it differs from the

California and National Register of Historic Places under the jurisdiction of the U.S. Secretary of the Interior.

The NAHC, pursuant to Appendix B of the Guidelines to the California Environmental Quality Act (CEQA) is designated as the agency with expertise in the areas of issues of cultural significance to California Native American communities. Also, in the 1985 California Appellate Court decision (170 Cal App 3rd 604), the court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources, impacted by proposed projects including archaeological, places of religious significance to Native Americans and burial sites

Culturally affiliated tribes are to be consulted to determine possible project impacts pursuant to the National Historic Preservation Act, as amended. Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. The NAHC recommends as part of 'due diligence', that you also contact the nearest Information Center of the California Historical Resources Information System (CHRIS) of the State Historic Preservation Office (SHPO) for other possible recorded sites in or near the APE (contact the Office of Historic Preservation at 916-445-7000).

Attached is a list of Native American contacts is attached to assist you; they may have knowledge of cultural resources in the project area. It is advisable to contact the persons listed and seek to establish a 'trust' relationship with them; if they cannot supply you with specific information about the impact on cultural resources, they may be able to refer you to another tribe or person knowledgeable of the cultural resources in or near the affected project area.

Lead agencies should consider avoidance, in the case of cultural resources that are discovered. A tribe or Native American individual may be the only source of information about a cultural resource; this is consistent with the NHPA (16 U.S.C. 470 *et seq* Sections. 106, 110, and 304) Section 106 Guidelines amended in 2009. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful

NEPA regulations provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Even though a discovery may be in federal property, California Government Code §27460 should be followed in the event of an accidental discovery of human remains during any groundbreaking activity; in such cases California Government Code §27491 and California Health & Safety Code §7050.5 will apply and construction cease in the affected area.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton

Cc: State Clearinghouse

Attach: Native American Contacts list

Native American Contacts
Inyo County
June 4, 2012

Big Pine Band of Owens Valley
Virgil Moose, Chairperson
P. O. Box 700
Big Pine , CA 93513
bigpinetribaladmin@earthlink
760- 938-2003
(760) 938-2942-FAX
Owens Valley Paiute

Ron Wermuth
P.O. Box 168
Kernville , CA 93238
warmoose@earthlink.net
(760) 376-4240 - Home
(916) 717-1176 - Cell
Tubatulabal
Kawaiisu
Koso
Yokuts

Bishop Paiute Tribe
Chad Delgado, Chairperson
50 Tu Su Lane
Bishop , CA 93514
(760) 873-3584
(760) 873-4143
Paiute - Shoshone

Bishop Paiute Tribe
Brian Adkins, Environmental Mger
50 Tu Su Lane
Bishop , CA 93514
(760) 873-3076
Paiute - Shoshone

Fort Independence Community of Paiute
Israel Naylor, Chairperson
P.O. Box 67
Independence CA 93526
Israel@fortindependence.
(760) 878-5160
(760) 878-2311- Fax
Paiute

Kern Valley Indian Council
Julie Turner, Secretary
P.O. Box 1010
Lake Isabella, CA 93240
(661) 366-0497
(661) 340-0032 - cell
Southern Paiute
Kawaiisu
Tubatulabal
Koso
Yokuts

Timbisha Shoshone Tribe
Joe Kennedy, Chairperson
785 North Main Street, Suite
Bishop , CA 93514
(760) 873-9003
(760) 873-9004 FAX
Western Shoshone

Timbisha Shoshone Tribe THPO
Barbara Durham, Tribal Historic Preservation
P.O. Box 206
Death Valley , CA 92328
dvdurbarbara@netscape.
(760) 786-2374
(760) 786-2376 FAX
Western Shoshone

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2012054003; NEPA Notice; draft Environmental Impact Statement (DEIS) for the Haiwee Geolothermal Leasing Area DEIS/CDCA Plan Amendment Project; located on 22,805-acres in southern Inyo County, California but north of Little Lake and west of China Lake Naval Weapons

Native American Contacts
Inyo County
June 4, 2012

Big Pine Band of Owens Valley THPO
Bill Helmer, Tribal Historic Preservation Officer
P.O. Box 700
Big Pine , CA 93513
amargosa@aol.com
(760) 938-2003
(760) 937-3331 - cell
(760) 938-2942 fax
Paiute

Kern Valley Indian Council
Robert Robinson, Co-Chairperson
P.O. Box 401
Weldon , CA 93283
brobinson@iwvisp.com
(760) 378-4575 (Home)
(760) 549-2131 (Work)
Tubatulabal
Kawaiisu
Koso
Yokuts

Bishop Paiute Tribe THPO
50 Tu Su Lane
Bishop , CA 93514
(520) 404-7992 - cell
(760) 873-4143 - FAX
Paiute - Shoshone

Lone Pine Paiute Shoshone Reservation
Melvin Joseph, Chairman
P.O. Box 747
Lone Pine , CA 93545
(760 876-1034
760-876-8302
(760) 876-8302
Paiute
Shoshone

Lone Pine Paiute Shoshone Reservation
Kathy Bancroft, Cultural Resources Officer
P.O. Box 747
Lone Pine , CA 93545
406-570-5289
kathybncrft@yahoo.com
760-876-8302 FAX
Paiute
Shoshone

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2012054003; NEPA Notice; draft Environmental Impact Statement (DEIS) for the Haiwee Geolothermal Leasing Area DEIS/CDCA Plan Amendment Project; located on 22,805-acres in southern Inyo County, California but north of Little Lake and west of China Lake Naval Weapons

BOARD OF SUPERVISORS
COUNTY OF INYO

P. O. BOX N • INDEPENDENCE, CALIFORNIA 93526
TELEPHONE (760) 878-0373 • FAX (760) 878-2241
e-mail: pgunsolley@inyocounty.us

July 10, 2012

Mr. Peter Godfrey, California Desert District
Bureau of Land Management (BLM)
22835 Calle San Juan de Los Lagos
Moreno Valley, CA 92553

Mr. Godfrey,

With regard to the Haiwee Geothermal Leasing Area: Draft Environmental Impact Statement (DEIS), the Inyo County Board of Supervisors would like to thank the BLM for the opportunity to comment. Overall, the County supports the development of geothermal energy within our borders and has compiled the following comments for your use in this planning effort.

First and foremost, we are concerned about coordination pursuant to the Federal Land Policy and Management Act (FLPMA) of 1976. County staff provided comments on the Notice of Intent (NOI) for this DEIS in November, 2009. Our main concern at the time was that BLM open the coordination effort with Inyo County for this particular DEIS. To date, no one from the BLM has contacted the County and we hope that we will be hearing from someone at the BLM in the near future. After reviewing the DEIS, we have identified several items that we would like to review with BLM staff. We believe that jurisdiction to jurisdiction coordination is the perfect forum for County staff to help the BLM work through our concerns. Our comments include:

- In Section 1.5.13 (pg. 1-18) Inyo County Water Policy is addressed. In addition to this, Inyo County Code, Chapter 18.77: *Regulation of Water Transfers Undertaken Pursuant to Water Code Section 1810, Sales of Surface Water or Groundwater by the City of Los Angeles, and the Transfer or Transport of Water from Groundwater Basins Located in Whole or in Part Within*, needs to be included.

- In Section 3.6.1 (pg. 3-30) General Plan policies WR-1, WR-2 and WR-3 are described, in addition to these Inyo County Code, Chapter 18.77: *Regulation of Water Transfers Undertaken Pursuant to Water Code Section 1810, Sales of Surface Water or Groundwater by the City of Los Angeles, and the Transfer or Transport of Water from Groundwater Basins Located in Whole or in Part Within*, needs to be included.

- Section 3.7.1, (pg. 3-55) addresses Applicable Regulations and Plans, Policies/Management Goals. There is no mention of the Inyo County Agriculture Advisory Board. They should be consulted, especially with regard to 3.7.2.1 – Invasive, Non-Native Species, for related programs.

- Section 3.13, (pg. 3-106 – 3 -110) this section should include language addressing the County's General Plan chapter 8.4, Policies on Mineral and Energy Resources.

- It is unclear which parcels are privately owned from Figure 3.16-1 (pg. 3-118). It would be helpful if this illustration is made clearer and an additional illustration of the General Plan designations for each of the privately owned parcels is added. Although the actual exploration and development of geothermal resources in the area may not be conducted on the privately owned parcels, they can still be affected by these activities.

- Section 3.18.2 (pg. 3-123) states that due to the rural setting and a lack of a diverse system of roads . . . the scope of the analysis limited to US 395 and SR 190, we disagree with the lack of analysis of local roads. Please include an analysis of County roads that may be impacted, especially Coso-Gill Station road that is mentioned in 3.18.2. This analysis needs to include any road improvements that may be necessary due to exploration and development of geothermal resources in the area.

- In Section 3.19.3.1 (pg. 3 – 130) you can get updated population totals for the County and the CDPs from the 2010 Census. American Community Survey data is also now available for Inyo County and the CDP's. And, specifically, on pg.3-132 the reference to Inyo County's population not growing in the past decade is incorrect if you look at the actual 2000 and 2010 Censuses. Inyo County's population was 17,945 in 2000 and 18,546 in 2010 indicating the population grew 3.3% over the last decade.

- We appreciate your thorough analysis of Socio-Economics and Impacts to Public Services. However, in Chapter 4, Environmental Consequences: Impacts to Public Services, on page 4-157 it states that given the very low population impacts described for the HGLA, correspondingly low impacts on public services can be expected. We would like to point out that with a very low population, impacts, even at a low level, will be felt more greatly than if they are experienced in a densely populated area. More specifically, since Inyo County does have a low population, its public service supplies are not well equipped for increases, however small they may seem. We would like to see this issue better addressed.

- In Chapter 4, Environmental Consequences: Impacts to Public Revenues, page 4-158, in light of the uncertainties that have been discussed with regard to geothermal lease payments, which leads to the questionable ability of geothermal energy projects paying for themselves, how will the additional costs to Inyo County for services, including but not limited to police, fire, water and sanitary services, be mitigated?

Again, the Inyo County Board of Supervisors would like to thank you for the opportunity to comment. We look forward to a full coordination effort with you, and please keep us up-to-date as this planning effort moves forward. If you have additional questions please contact the County's Administrative Officer, Kevin Carunchio, at (760) 878-0292 or by email at kcarunchio@inyocounty.us

Sincerely,

Marty A Fortney

Supervisor Marty Fortney, Chairperson
Inyo County Board of Supervisors

CC: Board of Supervisors, Inyo County
Kevin Carunchio, County CAO
Randy Keller, County Counsel
Joshua Hart, Inyo County Planning Director
Bob Abbey, BLM
Jim Kenna, BLM
Captain Lazar, China Lake Naval Weapons Center
Regional Council
California State Association of Counties

DEFENDERS OF WILDLIFE • FRIENDS OF THE PANAMINTS •
• CENTER FOR BIOLOGICAL DIVERSITY •

Via Electronic Mail

Jeff Childers and Peter Godfrey
HGLA Project Managers
BLM California Desert District
22835 Calle San Juan de los Lagos
Moreno Valley, CA 92553
Peter_Godfrey@blm.gov; jchilders@blm.gov

Re: Notice of Availability of the Draft Environmental Impact Statement and Draft Proposed California Desert Conservation Area Plan Amendment for the Haiwee Geothermal Leasing Area in Inyo County, CA; 77 Fed. Reg. 27478 (May 10, 2012).

Dear Mr. Childers and Mr. Godfrey,

We are writing to alert you to a significant omission and inaccuracy in the Notice of Availability for the DEIS published in the Federal Register on May 10, 2012, 77 Fed. Reg. 27478. The Notice published on May 10, 2012 references the earlier September 11, 2009 Federal Register Notice of Intent (NOI) for the Haiwee Geothermal Leasing Area (HGLA), 74 Fed. Reg. 46786, as to the lands that are affected by the action. However, the 2009 NOI did not provide notice of all the included lands, and therefore was erroneous.

The list of public lands the NOI state were being considered for geothermal leasing omits Sections 11 and 12 of Township 22S, Range 37E. These two sections are included in all descriptions of the HGLA in the DEIS, specifically:

- Figure 2.2-1 on page 2-3 of the DEIS. This is a map of the HGLA with Township, Range and Sections identified. Other maps in the DEIS that do not identify Township, Range and Sections show an identical outline of the HGLA.
- Fact Sheet, Appendix E of the DEIS, the Scoping Handouts
- The Document Scope and Leasing Area on page ES-iii of the DEIS
- The Project Overview on page 1-1 of the DEIS.

Because the Notice of Availability for the DEIS does not list the lands being considered in the DEIS but only references the erroneous Notice of Intent, the public has not been properly notified of the actual area under consideration.

To provide proper notice to the public of lands under consideration, the Notice of Availability must be re-published with the correct information regarding the area under consideration in the DEIS and BLM must restart the 90-day review process for the DEIS, to give opportunity for those who may have been misled by the omission of two sections of land affected by the proposal in the NOI to now fully participate in the public process for the action.

Sincerely,

Jeff Aardahl
California Representative
Defenders of Wildlife
jaardahl@defenders.org

Lisa T. Belenky, Senior Attorney
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lbelenky@biologicaldiversity.org

Tom Budlong
Friends of the Panamints
tombudlong@roadrunner.com

Sophia Anne Merk
National Public Lands News
941 E Ridgecrest Boulevard
Ridgecrest, California 93555
samnplnews@yahoo.com

Childers, Jeffery K

From: Sam Iam <samnplnews@yahoo.com>
Sent: Friday, July 20, 2012 4:28 PM
To: Godfrey, Peter E; Childers, Jeffery K
Subject: Haiwee Geothermal Leasing Area

Jeff Childers and Peter Godfrey HGLA Project Managers
BLM California Desert District
22835 Calle San Juan de los Lagos
Moreno Valley, CA 92553
Peter_Godfrey@blm.gov; jchilders@blm.gov

Re: Notice of Availability of the Draft Environmental Impact Statement and Draft Proposed California Desert Conservation Area Plan Amendment for the Haiwee Geothermal Leasing Area in Inyo County, CA; 77 Fed. Reg. 27478 (May 10, 2012).

Ref: July

Dear Mr. Childers and Mr. Godfrey,

In 2008, the Geothermal Programmatic EIS was introduced however; this Known Geothermal Resource Area (KGRA) was omitted at that time. The reasons for this is not apparent by reading the whole document except to speculate that this area was not unclassified land, but rather Limited with an Area of Critical Environmental Concern at Rose Spring.

In 2009, Scoping Meetings were held for this project. However, the Haiwee Geothermal Leasing Area Draft EIS and Proposed Amendment to the CDCA Plan were not introduced until April of 2012 three years after the scoping meetings were held. There were flaws in the original description of the property in the Federal Register and the public scoping meetings were held after the public comment period time limit. BLM personnel acknowledged this, but a correction to the Federal Register notice was never initiated as promised at a public meeting in Lone Pine and recorded in this Draft.

The Public was also not notified by the procedures set forth in the California Desert Conservation Plan as noted on page 95.

"Notification of proposed amendments to or changes in the California Desert Plan will be published in the Federal Register. In addition, notices will also be published in a newspaper, or newspapers, of general circulation in the area which would be affected by the proposed amendment(s). Further a Plan amendment mailing list will be developed by BLM and will include appropriate publications, which publish material of interest to people concerned about public lands of the California Desert. All individuals, organizations, and other public agencies requesting notices of Plan amendment proposals or decisions will receive such notices. All notices and information will be published in this manner no later than 30 days prior to the first or subsequent public hearing, if one is to be held."

Regarding the specified acreage, the original Federal Register Notice September 8, 2009 stated:

"Township 21 South, Range 37 East, sections 11-14, 23-26, 35 and 36
Township 21 South, Range 38 East, sections 7-10, 15, 17-22, 27-34
Township 22 South, Range 37 East, sections 1 and 2
Township 22 South, Range 38 East, sections 5-8 within the San Bernardino and Base Meridian. Total acreage being considered for geothermal leasing is approximately **22,060** acres."

The Draft EIS states:

"Township 21 South, Range 37 East, sections 11-14, 23-26, 35 and 36
Township 21 South, Range 38 East, sections 7-10, 15, **16**-22, 27-34
Township 22 South, Range 37 East, sections 1 and 2 and **11-12**
Township 22 South, Range 38 East, sections 5-**8** within the San Bernardino and Base Meridian. Total acreage being considered for geothermal leasing is approximately **22,805** acres."

A difference of 745 acres (both private and state lands) was acknowledged on October 13, 2009 at a public meeting by official transcripts by the project manager at that time.

Then when the draft came out, sections 11, 12 and 16 magically were included in the map and Notice of Intent. After including section 16 and private lands, should it not now make it an EIR, not an EIS?

At that same meeting, Inyo County Supervisor requested that air-cooling towers be assessed and only one paragraph in the Draft mentions air cooling and then dismisses it as not viable.

After looking at some notes on the final ROD on the CDCA Plan, it states that "no utility corridors should cross the Rose Valley Spring and that the KGRA is inconsistent with the BLM Bakersfield District on Coso KGRA Final EIS. Also Habitat Management Plan (W-11) is inconsistent with the wildlife element."

It also went on to say change MUC designation from Class C and L to Class M in all areas except Inyo County ERA's 40 (Rose Spring), 41 (Red Hill Cinder Cone), and 42 (Fossil Falls), which should remain Class L. It also stated that Haiwee Reservoir should become a public recreation area after completion of LA aqueduct filtration plant.

This Draft EIS ignores many tribal issues. Rose Spring ACEC was set up for Cultural Resources and is of tribal concern by at least four different tribes. In 1985 the BLM established the Rose Spring Area of Critical Environment Concern (ACEC) for scientific use and public interpretation. Portions of the Rose Spring ACEC are within the HGLA and tribal concerns voiced at several meetings asked for inclusion of monitoring of any activities.

So if this area is truly a Class L, should it not stay out of the existing KGRA's as intended by not including it in the Known Geothermal Area EIS in 2008?

This Draft EIS is long and much of the data that was initiated three years ago could use more scientific and credible data.

The seismic studies are not complete and in fact ignore the fact that there was so much damage done by a 1952 Tehachapi earthquake (7.2) to South Haiwee Dam, which borders this area to the north. The following report was completed by Donald Babbitt, M. ASCE; 1http://www.michigan.gov/documents/deq/deq-p2ca-caseismicpaper_281049_7.pdf

"Two hydraulic fill dams were damaged by the 1952 Kern County Earthquake -- Dry Canyon Dam 45 miles from the epicenter and South Haiwee 95 miles from the Epicenter (Seed et al, 1978). **The owner of the dams recognizing they were in areas of high seismicity**, hence subject to more severe shaking acted to stabilize the dams. A 120-foot wide rock fill berm was added to the upstream slope and a 100-foot wide berm to the downstream slope of 81-foot high South Haiwee Dam."

More recently, ERS radar interferometry reveals strain transient in the Eastern California Shear Zone
The data allowed us to estimate a rate of creep of 7 mm/yr on the section of the fault below the depth of 5 km. This rate is 3 times faster than the long-term geologic rate estimated on this fault and the creeping section anomalously shallow. These observations suggest that the Blackwater-Little Lake fault system is currently the locus of a transient deformation process, which has never been observed before. The article describing these results is in the November, 2001 issue of the journal Geology.
The seismic studies in the Draft seem to be picked only for what future proponents want them to say and there seems to be no connectivity to other faults as demonstrated by more geological searches.

There is lack of a complete cumulative concise water analysis. The report states that it is within the Indian Wells Valley watershed and yet the Kern County is not asked in regards to whether this will have an impact on ground water in Indian Wells Valley. It does not produce numbers regarding consumptive use of groundwater that is already being fossil water mined for other projects. It does not assess whether hydro fracking of numerous faults would impact geological and hydrological concerns. It also ignores the fact that the practice of fracking may become illegal in the state of California. It also does not contain specific environmental concerns about the usage of different chemicals in case they would use fracking.

It is our opinion that because of the significant omissions of the original documentation that had a difference in acreage and section numbers with no correction in the federal register, the disconnect of a timely document addressing all the concerns by many of the public, not mentioning why this area was excluded by the original Geothermal Programmatic EIS, whether or not this should be an EIR, and the lack of a Plan Amendment List was not kept by the BLM should predicate a longer comment period to correct these omissions in the Federal Register, Newspapers and Contact List.

There is no consistency in this document and the timeline by NEPA standards have been seriously impacted. The timeline indicated a Notice of Intent 2009, Scoping October 2009, Draft EIS and Plan Amendment with 90 day comment period Winter of 2009, Formal A public Meetings Spring 2010, FEIS Fall 2010 and ROD in winter of 2010. This time period was not kept and many of the people that responded the first time around were not notified.

Therefore, we are asking that a new time line be established for comment period of ninety days after amending the original Federal Register of September of 2009 on the acreage, waiting for the new rules on fracking, including a statement why it was not included in the KGRA of 2008, and provide adequate notification/comment period by all tribes in the immediate area, property owners, Supervisors of Inyo County, Planning Department of Inyo County and Kern County Regional Water District.

Respectfully,

Sophia Anne Merk
samnplnews@yahoo.com
National Public Lands News
941 E. Ridgecrest Boulevard
Ridgecrest, California 93555

BIG PINE PAIUTE TRIBE OF THE OWENS VALLEY

Big Pine Paiute Indian Reservation

July 23, 2012

Attn: Peter Godfrey
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
email: Peter_Godfrey@blm.gov

RE: Comments on the Haiwee Geothermal Leasing Area Draft Environmental Impact Statement

Dear Mr. Godfrey:

Please accept these comments on the Haiwee Geothermal Leasing Area (HGLA) Draft Environmental Impact Statement (DEIS) and Draft Proposed Amendment to the California Desert Conservation Area Plan. The Big Pine Paiute Tribe of the Owens Valley (Tribe) submitted scoping comments for this DEIS on November 10, 2009. The HGLA lies within a region of great cultural importance to the Native American tribes which have occupied or used this area for thousands of years.

The Tribe recommends **Alternative B** for this project: *Close the entire HGLA to geothermal exploration, development and leasing; amend the CDCA Plan to have the HGLA closed and unavailable for geothermal exploration, development and leasing; deny authorization of all pending leases within the HGLA (DEIS, p. 2-1).* The Tribe makes this recommendation based on the long-term adverse impacts geothermal development would have on the ethnographic landscape and on the water resources of Rose Valley and the surrounding region including Coso Hot Springs. The Tribe is concerned that justifications for developing geothermal power plants overemphasize the need for the United States to develop energy alternatives and reduce dependence on fossil fuels, but underestimate the real, long-term consequences of developing such resources. The actual renewability of earth's heat is not well understood. Geothermal plants typically *do* emit some of earth's sequestered carbon dioxide into the atmosphere. After geothermal production is no longer viable, scars remain indefinitely on the land and resources.

Even though specific archaeological sites could possibly be avoided with Alternative C "with no surface occupancy (NSO) in sensitive areas and Alternative D "selective closure of sensitive resource areas within the HGLA for geothermal exploration and development" p. 2-1), these Alternatives do not account for the irreversible significant impacts which geothermal development will have on the ethnographic landscape of the Rose Valley and surrounding

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important cultural sites: significant multi-component sites in all directions from the HGLA, including the Stahl Site at Little Lake, Fossil Falls Archaeological District , the Sugarloaf Archaeological District, Haiwee Springs, Coso Rock Art District National Historic Landmark, and Coso Hot Springs. This dense concentration of highly significant cultural sites form a discrete region with the HGLA within the center of this cultural landscape.

The ethnographic landscape for the HGLA should be analyzed in a "Native American Issues and Concerns" section of the EIS. The DEIS does not contain such a section which is usually included in EISs for projects in the Great Basin. There is a "*Government-to-Government Consultation with Indian Tribes*" section, but this contains no analysis and is no substitute for an in-depth "Native American Issues and Concerns" section. In addition, the "*Government-to-Government Consultation with Indian Tribes*" section provides incomplete information which should be corrected in the Final EIS. Bill Helmer, Tribal Historic Preservation Officer for the Big Pine Paiute Tribe, attended the field trip to the HGLA on July 21, 2011, but is not listed in the DEIS.

The DEIS states on p. 5-9: "In the discussions noted above [two field trips to the HGLA with tribal representatives], no specific TCPs, archaeological sites, locations of important historic events, sacred sites, sources of raw material used to make tools or sacred objects, or traditional hunting and gathering areas have been identified within the HGLA. In contrast, the idea that the entire landscape is sacred, was expressed. Additionally, no specific sites have been identified as eligible for listing in the NRHP."

However, Mr. Helmer expressed the need for an ethnographic or cultural landscape analysis for the area slated for geothermal development. This is very different from stating that "the entire landscape is sacred." The National Park Service defines *ethnographic landscape* in its Preservation Brief No. 36 (1994): "a landscape containing a variety of natural and cultural resources that associated people define as heritage resources. Examples are contemporary settlements, religious sacred sites and massive geological structures. Small plant communities, animals, subsistence and ceremonial grounds are often components." The National Park Service's Applied Ethnography Program provides this definition for *ethnographic landscape*: "...a relatively contiguous area of interrelated places that contemporary cultural groups define as meaningful because it is inextricably and traditionally linked to their own local or regional histories, cultural identities, beliefs and behaviors" (Michael J. Evans, et al., *Ethnographic Landscapes*: 54 CRM No 5—2001). An Ethnographic Landscape is a sub-category of the National Park Service's "Cultural Landscape," and can be eligible for listing on the National Register of Historic Places.

The EIS should include an Ethnographic Landscape analysis within an added "Native American Issues and Concerns" section. It is recommended that this analysis follow the guidelines in the ACHP's *Native American Traditional Cultural Landscapes and the Section 106 Review Process: Questions and Answers* (ACHP website, 7/11/12):

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"3) How are traditional cultural landscapes identified in the Section 106 review process?

Traditional cultural landscapes, because they are often a property type such as a district or site, are identified in the same manner in the Section 106 process as other types of historic properties of religious and cultural significance to Indian tribes or Native Hawaiian organizations. The regulations at 36 CFR Section 800.4 outline several steps a federal agency must take to identify historic properties. In summary, to determine the scope of identification efforts, a federal agency, in consultation with the State Historic Preservation Officers (SHPO)/Tribal Historic Preservation Officer (THPO), must:

1. Determine and document the area of potential effect for its undertaking;
2. Review existing information; and,
3. Seek information from consulting parties including Indian tribes or Native Hawaiian organizations.

Based on the information gathered through these efforts, the federal agency, in consultation with the SHPO and any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to historic properties that may be affected by the undertaking, develops and implements a strategy to identify historic properties within the area of potential effects. Identification efforts may include background research, oral history interviews, scientific analysis, and field investigations.

A federal agency's consultation with Indian tribes or Native Hawaiian organizations is intended to ensure historic properties that may be of religious and cultural significance to them are both identified and appropriately considered in the Section 106 review process. In fact, the Section 106 regulations at Section 800.4(c)(1) require federal agencies to acknowledge the special expertise of Indian tribes and Native Hawaiian organizations in assessing the eligibility of historic properties that may be of religious and cultural significance to them."

Finally, on p. 5-8, it is stated: "Native American Tribes participating in the Scoping Process requested an opportunity for additional involvement, particularly through the Section 106 consultation process (see Section 5.3.8)," although there is no "Section 5.3.8."

Impacts to Regional Water Resources

Geothermal energy production involves water, and water in our desert area is precious. Geothermal wells do not last forever, but their effects on regional water resources may be long lasting. The DEIS acknowledges awareness of regional water concerns and examines some existing conditions in the Rose Valley area including current groundwater pumping and its potential adverse effects. In spite of this, the DEIS recommends an alternative allowing HGLA exploration, and potential leasing and development. It is not clear what is meant by this statement made for the preferred and other alternatives, "groundwater extraction for consumptive use would be prohibited." Geothermal energy inevitably removes and through evaporation

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"consumes" water from the earth. The Tribe's analysis of the Coso Hay Ranch project shows large projects involving water are inappropriate in the Rose Valley region.

Potential *Impacts* to Coso Hot Springs not Analyzed

The Big Pine Paiute Tribe and other tribes requested an analysis of potential impacts of geothermal development in the HGLA on Coso Hot Springs. On p. 4-42 it is stated:

> "Although located more than 10 miles east-southeast from the HGLA, the Coso Hot Springs are addressed in this analysis as a result of their high cultural importance and their listing on the National Register of Historic Places. The Coso Hot Springs are surface manifestations of the Coso geothermal reservoir, although any connection between the hot springs and the reservoir, if one exists, is complex."

However complex, there needs to be an analysis of the undertaking's potential impacts on Coso Hot Springs. Instead, Coso Hot Springs is addressed with one short paragraph with no relevant references (p. 4-50):

> "With regards to the potential impacts to the Coso Hot Springs, any effects to the hot springs from the proposed action are unlikely under Alternative A (or under any of the alternatives). This is due to the distance between the Coso Hot Springs and the HGLA, the likely discontinuity between geothermal resources between the two areas, and the observed isotopic differences in the waters. Moreover, surface manifestations in such hot springs reflect natural seasonal (and sometimes diurnal) variations (Geologica 2007)."

This paragraph has no references except "Geologica 2007," which is not listed in the References section. However, Geologica is the consulting firm which prepares the Coso Hot Springs Monitoring reports for NAWS, China Lake. These reports would not analyze potential impacts to Coso Hot Springs by geothermal development in the HGLA. The statements addressing potential impacts to Coso Hot Springs by geothermal development in the HGLA are unsubstantiated and inadequate for an EIS, especially since Coso Hot Springs has already been adversely effected by nearby geothermal development.

Thank you for considering the comments of the Big Pine Paiute Tribe of the Owens Valley.

Sincerely,

Virgil Moose
Tribal Chairperson

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July 23, 2012

Bureau of Land Management
California Desert District Office
Attn: Peter Godfree
22835 Calle San Juan De Los Lagos
Marino Valley, CA 92553

Re: Haiwee Geothermal Leasing Area

Dear BLM:

Please address the following comments with respect to the Draft Environmental Impact Statement ("DEIS") for the Haiwee Geothermal Leasing Area ("HGLA"). We represent Little Lake Ranch, Inc. ("LLR") which is the owner of approximately 1200 acres of land located in the southerly portion of Rose Valley, including the body of water known as Little Lake. HGLA consists of approximately 22,805 of BLM administered lands. The southern most boundary of the HGLA is located approximately 7 miles north of Little Lake. A primary concern to Little Lake is the possible utilization of underground water resources within the Rose Valley Aquifer to facilitate the initial exploration for geothermal resources and perhaps later, the development and exploitation of those geothermal resources.

BLM indicates that it has received three applications for geothermal leases covering approximately 4,460 acres. (Page 1-1). Each of the three applications covers land in the northwest quadrant of the HGLA and located just east of Highway 395. (Figure 1.1-3, at page 1-5). BLM indicates that it proposes to grant each of the three leases... "to facilitate appropriate exploration and development of geothermal resources in the HGLA..." (Page 1-2). The DEIS is not entirely consistent, however, in that BLM says that the leases do not authorize any specific energy development based on the DEIS. (Page 1-2). Please describe in greater detail what the specific terms and conditions of any

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lease may be so that the actual authorized uses may be assessed at part of the DEIS process, or better yet, a form of the leases that may be granted.

Other than the proposed length of the leases, beginning with 10 years for exploration followed by a 40 year term for actual resource development (Page 1-10), the actual terms and conditions of any such leases are not specified other than the leases are supposed to address a variety of factors, including sanitation, water quality, wildlife, cultural resource protection and reclamation. Nonetheless, none of the specific terms or the proposed protections are set forth, even in a general sense. Please provide additional details.

The HGLA is designated as a "Class L" land within the Multiple Use Class ("MUC") of the California Desert Conservation Area ("CDCA"). (Page 1-13). While geothermal generation facilities may be allowed, protection of the natural and cultural resources must be protected.

The HGLA is located in the southern part of Inyo County within the area known as the Rose Valley. Little Lake is located in the southerly portion of Rose Valley and relies on the underground water reservoir known as the Rose Valley Aquifer to supply needed water resources to preserve not only Little Lake, but all of the vegetation and wildlife that depend upon the natural springs and water flow provided by the Rose Valley Aquifer.

The DEIS notes that the BLM published a Final Programmatic EIS ("PEIS") for Geothermal Leasing in the Western United States October, 2008. (Page 1-17). We submitted comments on the draft PEIS, a copy of which is attached. All of the comments and questions raised in connection with the PEIS are equally applicable to the DEIS. Accordingly, please address the comments and questions of the attached letter.

The DEIS indicates that there were originally nine (9) general alternatives evaluated in connection with the proposed exploration and development of the geothermal resources within the HGLA. (Page 2-1). Only five alternatives were actually studied, and with little or no explanation the alternative called "Alternative Geothermal Technologies" was apparently rejected. (Page 2-2). It is peculiar, to say the least, that Alternate Geothermal Technologies would be rejected before there is even an exploration for geothermal resources or without having any knowledge whatsoever of what the nature and type of those geothermal resources might be. The type of technology currently utilized by Coso Operating Company, LLC ("Coso") utilizes one of the most water wasteful technologies available for geothermal development. Yet, this is stated to be the preferred type of technology for the HGLA without seriously addressing alternate technologies that could minimize or completely eliminate the needless waste of valuable water resources. Please explain and justify this decision.

The DEIS indicates that a geothermal lease only provides a restricted or limited right of exploration and development. (Page 2-4). It also states that ground-disturbing

activities are not authorized. (Page 2-4). Please specify exactly how such activities are prohibited under the lease and what the "limited rights" to exploration and development may be. What types of development activities would be permitted?

The DEIS notes that there are no surface features associated with geothermal activity within the HGLA. (Page 2-5). The DEIS then makes some completely unsupported speculations about what type of geothermal resources may be discovered, how deep they may be, what the size of the power plant may be and what technology would be used to develop the resources. (Page 2-5). Such assumptions are nothing more than mere speculation without any evidence whatsoever to support them. The elimination of alternate technologies for geothermal development should be deferred until actual evidence is compiled through exploration activities and no technology should be eliminated without further analysis.

BLM generally outlines what it considers to be the Reasonably Foreseeable Development ("RFD") related to the HGLA. (Page 2-8). The DEIS does not, however, clearly and succinctly define what the RFD is. In particular, while there are references to exploration and construction activities, there are also many references to resource development which suggest the actual exploitation of the geothermal resource and the production of electricity. The specific limitations on the proposed leases under the RFD must be clearly specified. (Page 2-8).

While the DEIS suggests that no action is currently contemplated or allowed for the development of the geothermal resources, the RFD assumes there will only be two 30-megawatt ("MW") geothermal facilities including fifteen (15) production wells and seven (7) injection wells. If no development is being authorized or analyzed by the DEIS, it is unclear why the RFD would consider future development. (Page 2-8). Please explain.

It is not comforting that BLM asserts that all wells permitted by BLM would protect ground water. (Page 2-9). During the course of the environmental review by the County of Inyo ("County") and by BLM during the authorization for Coso to pump and transport nearly 5,000 acre feet of water per year from the Rose Valley Aquifer, BLM did virtually nothing to insure the protection of ground water. To the contrary, BLM made every effort possible to facilitate the approval of the Coso project to the detriment of Rose Valley and LLR. Please describe what BLM considers to be "standard review methods" for protection of ground water. (Page 2-9).

Why does the RFD assume that dual-flash technology will be used, simply because that is the technology of Coso? (Page 2-10). Coso's facility was designed over twenty-five (25) years ago. It should have anticipated the lack of water supplies to replenish water wasted through evaporation during the cooling process. Nonetheless, when Coso ran out of water, it pushed through a bad water pumping and delivery project based on economic reasons alone, and without any thought of the environmental costs.

Rather than suggest that binary geothermal systems "use relatively less water than dual-flash systems", (Page 2-11) identify the true differential in total water losses through evaporation compared to a fully-contained system.

The final environmental impact report ("FEIR") adopted by the County for the Coso project established a threshold of significance at a decline of 10% of water flowing into the surface features as Little Lake. Explain why the DEIS alters this standard by not allowing a decline of "10% or more to the average annual fluctuation of water flowing into the surface features at Little Lake". (Page 2-12).

Compare the utilization of water resources under proposed Alternative A at Page 2-12 to the use of water resources under the Preferred Alternative C at Page 2-17. The description of significant impacts set forth of Alternative A is not repeated in Alternative C. Why not? Explain why Special Administrative Stipulations SA-HGLA-10a, b and c are all eliminated in Alternative A, but remain in Alternative C. Explain why SA-HGLA-10d is eliminated in Alternative C. (Page 2-17).

Are the Special Administrative Stipulations described in Section 2.6 the sole measures to protect ground water resources within Rose Valley? Why do each of the proposed Alternatives which allow some geothermal leasing have differences with respect to the protection of water resources?

The DEIS rejects the possible use of a binary geothermal plant system before any exploration done and before any actual knowledge is obtained with respect to the characteristics of the geothermal resource in the HGLA. No legitimate reason is advanced other than Coso uses a dual-flash plant with wet cooling towers. The evaporative cooling process results in the de-watering of the geothermal resource and may, in the future, depend upon imported water to preserve the resource, much as Coso is attempting to do at present. What are of the impacts of evaporative cooling on a geothermal resource? Would the use of a binary plant, even if less efficient, prolong the life and utility of the geothermal resource? Compare the potential longevity of the power plants using a binary plant compared to dual-flash. Other than the relative proximity of Coso, what is the actual and factual data that supports the speculative premise that the geothermal resource HGLA will be the same or remarkably similar to Coso? (Page 2-25).

The DEIS further rejects with no credible evidence or analysis the use, in whole or part, of a dry cooling system. *See* the analysis provided by Ronald DiPippo submitted in connection with the Coso project, a copy of which is attached. While the efficiency of a dry cooled system is reduced in the hot summer months, (Page 2-26) it is entirely feasible and practical in the winter and colder months. No consideration has been given to a combination of dry and wet cooling facilities to materially reduce both the (a) loss of water through evaporation and the degradation of the geothermal system itself or (b) the elimination of the need for any imported water. Where is the analysis that air or dry cooling is not feasible? Nothing more than a consultant's conclusion, without any factual

or analytical support, is provided. BLM should take affirmative steps through the DEIS to avoid any argument in the future that the operator needs to import water that would not otherwise be needed through the utilization of a dry cooling system. Further explain BLM's rationale.

The DEIS seems to incorporate certain unspecified standard stipulations from the PEIS and standard stipulations on Form 3200-24A to be incorporated into any leases. (Page 2-28). The DEIS should contain all proposed stipulations in a complete format and not simply refer to other documents, laws or requirements. The public should have immediate access to the stipulations upon the reading of the DEIS alone without having to resort to other documents, some of which may not be readily available.

Similarly, the reader should not forced to read PEIS Chapter 2.2.2 to determine whether BLM can or may allow for an exception, waiver or modification of the standard stipulations. This process should be replicated in full within the body of the DEIS.

SA-HGLA-10(b) should be written in the disjunctive so that consumptive use of water is allowed only if such use does not exceed safe yield **OR** cause a decline of ten percent (10%) or more of water flowing into the surface features at Little Lake. (Page 2-42). Moreover, please better define what is meant by a ten percent (10%) decline of the "annual fluctuation of water." Provide a specific example to demonstrate what water reductions would constitute such a decline. How is the decline measured? What is the beginning assumption of the amount of water flowing into Little Lake? How will BLM determine what the annual fluctuation is? What measurement protocols will be put into place to ascertain whether the ten percent (10%) has been reached? Why is this standard different then the standard used in the FEIR adopted by the County?

The Authorized Officer (whoever that may be) should not have an independent ability to allow or not allow the pumping or use of groundwater. Precise standards for any allowable use should be set forth in the DEIS. If a discretionary decision can be made by the Authorized Officer, then some form of appeal or review must be provided to challenge the approval. What information or data will be required to allow the Authorized Officer to make this determination?

Please better define what is considered "development activities" with respect to SA-HGLA-10(b). Is this limited to the construction and instillation of the power plant facilities but not operation? If operations are excluded, it should be so stated.

With respect to SA-HGLA-10(c) (Page 2-42) see all of my comments above about SA-HGLA-10(b). In addition, the absolute prohibition against groundwater extraction should not be allowed by an "exception." The DEIS must describe the process and procedures to allow and approve an exception. There must also be some form of a review or appeal process. Who will be permitted to approve the exception? On what basis may the exception be allowed or granted?

The utilization of a future decision by the Authorized Officer in lieu of environmental analysis and an impact study is not permitted under NEPA. LLR and no other users of groundwater within Rose Valley should be forced to rely upon the decision of an unspecified person who may lack adequate training and expertise to act upon the requested water consumption.

Why does SA-HGLA-10(d) lack the requirement for a plan of operations together with mitigation and remediation plans as set forth in SA-HGLA-10(c)? (Page 2-43). See all of my comments with respect to SA-HGLA-10(b) above, all of which are incorporated herein.

The use of the terms "water", "groundwater" and other general uses of similar terms need to be further defined. (Page 2-43). Distinctions have to be made between waters emanating from springs, surface waters, irrigation or flood waters, rain water, evaporative water and waters located in or are part of the water, steam or other moistures of the geothermal resource itself. Waters or other fluids in the geothermal recourse could also be considered as "groundwater" as defined in the DEIS. However, the more general interpretation of groundwater would be those portions of the underground aquifer, or levels of the aquifer, which may be available for consumptive use for drinking, irrigation, or other human uses at the surface once it is pumped to the ground. Thus, a better definition of the various sources of water needs to be made in the DEIS and used consistently throughout the document to avoid confusion or misinterpretation.

Similarly, the definition of "wells" needs to be refined. Geothermal production and injection wells may be drilled in connection with the exploration, development or operation of the geothermal resource, but such wells should be confined to those extracting water from the geothermal resource itself. Water wells that are drilled for the purpose of extracting groundwater that would otherwise be available for human consumption or use on the surface of the ground should be dealt with differently.

The DEIS suggests that virtually no "groundwater" will be used or available for exploration, development or operation. For the purposes of this comment letter, "groundwater" will be described as the water within the Rose Valley Aquifer that is generally available for utilization by the surface owners of land within Rose Valley and not waters that which may be contained in or part of the geothermal resource, which I will hereafter call "geothermal fluids" and may mean water, steam or any other fluid matters within the geothermal resource.

It is unclear why SA-HGLA-10(g) would be relevant to the DEIS if use of groundwater is prohibited. Will there be a completely separate and new DEIS prepared and published for comment at the time that development or operation of any geothermal resource is considered? If so, what is the relevance or need to require a "water supply assessment" as part of this DEIS. (Page 2-43). If the suggestion is that the Authorized Officer may alone approve the water supply assessment and allow for the use of groundwater, then this suggestion must be rejected as it is not consistent with the

requirements of NEPA. Any consumptive use of water is clearly a potential impact upon the environmental resources of Rose Valley and must be discussed in public. The future delegation of this authority to the Authorized Officer is inappropriate and must be rejected.

SA-HGLA-10(g) suggests that a water budget shall be established. (Page 2-43). The County, as part of the Coso project, has been monitoring underground water levels, recharge and consumptive use for nearly three years. The data derived from such monitoring is entirely absent from the DEIS. While it is obviously critical for a water budget to be established, why does the DEIS ignore all of the data compiled from the Coso monitoring? Given the amount of data already collected, why does the DEIS not contain an analysis of what the current water budget may be?

SA-HGLA-10(g) further defines the term "Safe Yield" as the amount of precipitation and ground water inflow less the aggregate of surface runoff, evaporation, transpiration and ground water outflow, and that such result must be greater than or equal to zero. The time parameters for determining Safe Yield are not defined such that this formula does not refer to a single year, period of years or any other time element. As noted above, the monitoring related to the Coso project has already compiled three years of data from which it can be determined whether the Rose Valley Aquifer is already in a state of "Overdraft" which would mean that the consumptive use of water from the Rose Valley Aquifer already exceeds Safe Yield. There is no question but that the underground water levels of all of the monitored greenwells in and around the Hay Ranch have been in a steady state of decline since Coso began pumping. The underground water levels are steadily declining, indicating that Safe Yield has already been exceeded.

Another fallacy of the alleged water supply assessment is that there is no beginning for baseline timeframe noted. The County has dictated that Coso's pumping must cease on September 1, 2013. How will Safe Yield be defined when Coso's pumping stops? If Coso's pumping has already depleted the Rose Valley Aquifer by 5,000 acre feet per year since Coso began pumping, would be the proposed concept of Safe Yield allow any of the applicants to pump a newly-described recharge amount to prevent the recovery of the Rose Valley Aquifer? What protections are provided to allow the Aquifer to regain its historical underground water levels?

SA-HGLA-10(h) indicates that a new "water monitoring, management and mitigation plan" will be prepared, but that it must only be approved by the Authorizing Officer before the development or use of water resources. (Page 2-43). The DEIS clearly suggests that adverse impacts would arise from the use of groundwater. It is improper and ill-advised to allow the Authorizing Officer alone to approve a mitigation plan with no public comment or review. There are no standards or analysis of impacts or mitigation requirements set forth. As such, the DEIS utterly fails to address how vital resources will be protected. If such impacts, the use of water resources and mitigation measures are not presented in the DEIS, then an entirely new DEIS must be required before any use of water resources is permitted and it is impermissible under NEPA to

allow a single administrative person to determine what is allowable and what is not. (Page 2-43).

SA-HGLA-10(l) purports to require the leaseholder to identify water sources and an analysis that the quality and quantity of water available are adequate. (Page 2-44). This, again, is an impermissible delegation of authority. The DEIS must, itself, identify water sources and ascertain whether they are adequate. If the utilization of water resources will cause an impact upon the environment, such impacts must be identified and mitigation measures proposed. The public is given no ability to address the adequacy of water or what effects the utilization of such water may have upon vital public resources including consumptive use by others, and the impacts upon habitat and wildlife in and around the area if such water resources were depleted.

BLM continues to incorporate by reference various documents and mitigation standards that were adopted in earlier studies. (Page 2-44). The public should not be responsible to search various other published documents to determine which, if any, standards are being adopted for use in connection with the projects under review. Please see the Incorporation Statements at Page 2-45. All of the standards and requirements should be set off forth in the DEIS.

The public should not be required to speculate as to which Best Management Practices ("BMPs") will be included as part of the pending project. (Page 2-45). It does not tell us anything to suggest that some of the BMPs will be incorporated into the project requirements based upon some future environmental review. Please list which BMPs will be incorporated and which will not. If BMPs will only be incorporated after future environmental review, then why are they discussed here?

The purpose of the DEIS is to identify potential environmental impacts and to adopt mitigation measures which will reduce or eliminate the impacts. There is no sufficient environmental analysis if the impacts and mitigation members are deferred to some future date, without public input. It is not permissible to delegate the authority to measure or decide which BMPs will be applied to an unnamed and undesignated staff person during so-called site-specific environmental review. (Page 2-46). The public should not need to rely upon staff determinations when the impacts could materially impact the environment and the welfare of all local residents.

The DEIS indicates that "geothermal project developers <u>are advised to incorporate</u> the general BMPs applicable to their site in project site". (Page 2-46). Environmental protection should not be subject to the mere advice by BLM as to what the developers should or should not do. If environmental protections are required, they should be spelled out and enforced through the DEIS, leading to the final environmental document.

The suggestions that flash power plants are more water friendly than binary power plants is questionable. (Page 2-50). The issue is whether the plant uses evaporative cooling processes or dry cooling processes. While dry cooling can be less efficient in

very hot weather, no mention is made of the efficiency of dry cooling in cold weather. The DEIS should provide the facts of using each type of technology, and not provide a biased view against dry cooling or binary systems even though they may not produce over a typical year the same amount of total energy. The issue is whether or not such alternate systems cause less impacts on the environment and perhaps could prolong the longevity of the geothermal plant. The discussion lacks clarity and a full and honest evaluation of the alternate systems. Please clarify and provide more detail.

The entire analysis on pages 2-50 to 2-51 is circular and contradictory. At the end of this section, there is an acknowledgment that evaporative losses may vary from 5% to 33%, but the first portion of the section suggests that flash systems can satisfy 95% of their water needs. Regardless of which portion of the commentary is to be believed, the DEIS should mandate the use of little or no water resources, whether from the underground aquifer or from the geo-fluids themselves. Please explain and clarify.

The DEIS says that planning for water injection should be done in the early stages. (Page 2-52). If the injection relates to simply the geo fluids produced at the site, then there is no issue. However, if the injection philosophy suggests the importation and injection of waters outside the boundaries of the geothermal reservoir, then there is a severe impact upon local resources. Please clarify whether injection is contemplative of only the geo fluids themselves, or if there is a thought of injecting groundwater that is unrelated to the geo fluids or from imported water.

The deferral of any analysis of the use of surface or groundwater for the cooling of a geothermal facility cannot be postponed until a later date. (Page 2-53). Such usage, when considered in light of the permits already issued to Coso, must be absolutely rejected. No consumptive use of water should be permitted within the Rose Valley until and unless an entire environmental document that discusses such use is properly evaluated and analyzed in an environmental document, subject to full public review and analysis.

The suggestion that flash-steam cycle plants can minimize the use of fresh water is entirely misplaced. See the report from Ron DiPippo in connection with the Coso project. The fact is that the use of evaporative cooling will significantly deplete the water available in the geo fluids and deplete the geothermal resource over time.

We appreciate the comment that sufficient water supply must be guaranteed by an applicant before any lease is approved. (Page 2-53). Such statement, however, seems to be contrary to much of the discussion of the DEIS. How can the public be assured that such condition will be satisfied?

Given the comments for this part of the DEIS, the public can have no confidence in the statement that mitigation measures, stipulations, etc. will be monitored to ensure effectiveness and compliance. (Page 2-54). Who will ensure compliance and what will the stipulations be? How can any member of the public know that BLM will actually

satisfy its stated intent? Once a lease or permits are granted, what procedures will be in place to ensure compliance?

The DEIS notes that Coso is currently re-injecting water which Coso asserts as needed for operations. (Page 3-2). The pumped water that is re-injected in Coso is depleting the Rose Valley Aquifer. What is the evidence that such re-injection processes are providing any measurable benefits to Coso? Is BLM considering a similar project in the HGLA if "water is needed" for injection? What is the evidence that any such injection will actually have a measurable benefit?

Mention is made of the Rose Spring towards the northerly boundary of Rose Valley. (Page 3-35). There has been no recent observation of a water discharge from the Rose Spring in perhaps two or more decades. As previously noted in comments to the Coso project, Rose Spring may have been directly affected by the water pumping from the Hay Ranch for agricultural purposes in the late 70s and early 80s. The Rose Valley Aquifer has been recovering ever since the termination of such pumping. Such recovery has now been interrupted by Coso's pumping. It is suggested that Rose Spring could still be an operating spring but for the excessive pumping out of the Rose Valley Aquifer.

The DEIS spends several pages reviewing the Aquifer characteristics in the Rose Valley with a final summary. (Page 3-46). It is extremely surprising that this overview did not consider any of the findings from the recently concluded study of the basin performed by the independent consultant for the County as of the end of 2010. As part of the Coso project, this study was performed by Daniel B. Stevens & Associates ("DBS") that has analyzed the Aquifer properties. The analysis of the impacts from the Coso pumping itself should be more fully analyzed and assessed in accordance with the DBS study and report. Please describe why this report has been ignored or not utilized.

The DEIS contained some inaccurate and misleading reference to the amount of water that Coso is permitted to pump and transfer it to its facilities. (Page 3-48). While Coso was permitted to transport 3,000 acre feet per year beginning in December, 2009, such limit was increased to 4,839 acre feet per year in early 2011. The amount of estimated recharge in the Rose Valley Aquifer has been estimated but is uncertain. The estimated recharge of 5,100 acre feet per year in the DEIS is probably, according to the professional estimates, in the right range, but no one knows for certain. Nonetheless, because of the permitted pumping and transportation of water by Coso, it is certain that virtually all of the recharge in the Rose Valley Basin is already designated for use by Coso, regardless of the other consumptive use of water within the Rose Valley. Thus, Coso's, pumping does not account for merely "a large fraction of the estimated 5,100 acre feet per year annual recharge, it accounts for nearly all of it, if not an excess of the recharge. As such, no further pumping or use of the underground Aquifer should be permitted under any circumstances.

The DEIS admits that the geothermal exploration results for Coso are not readily available in the public domain. (Page 3-51). Please explain why this is an adequate

response for the need for an adequate environmental investigation. The assumptions are nothing more than guess work and conjecture. While it is understood, in part, that Coso has proprietary information, it should not be acceptable to deny the public an adequate analysis on environmental impacts based upon the assertion of privilege or confidentiality. Coso has sole use and possession of its geothermal area. It suffers no loss of confidentiality or competitive benefits by the disclosure of its impacts upon the surrounding environment. Indeed, the governing agencies of the Coso operations, namely BLM and the USA military, should have complete access to such information in order to confirm that Coso is not adversely impacting the lands and environment within which it operates. How does the disclosure by Coso harm its profits?

The DEIS suggests that the water for the presumed geothermal resource in the HGLA is "meteoric water". (Page 3-54). For the most part, meteoric water is not recharged except over extremely long geological timeframes. As such, the loss of the meteoric water may lead to the loss of the geothermal resource itself. Please explain why the use of evaporative cooling systems should be considered or allowed. In a dual-flash geothermal facility, calculate how much geothermal fluids are produced and what percentage of such fluids are lost through evaporation. How long will it take before the geothermal resource is damaged or affected by the losses?

Why does the DEIS suggest that the geothermal fluids may be recharged from the much shallower aquifers within the HGLA? (Page 3-54). Is there any sampling or monitoring evidence to support the same? If not, what is the purpose for the suggestion that such recharge may exist? Provide scientific or factual proof of the assertion and the time needed for recharge.

The comment that there are no permanent "natural" surface waters may be true. (Page 3-62). However, Little Lake, which is just south of HGLA, has existed for thousands of years and is a natural of source of surface water. Fish, amphibians, mammals, birds and other wildlife depend on the existence and perpetuation of Little Lake. This, in turn, depends upon the health of the underground water basin to supply Little Lake. While the relative level of the Little Lake surface can be altered through the control system developed by LLR, it is still a natural body of water. Moreover, Little Lake and its ponds do contain a variety of fish species that depend on the water bodies for their existence. The potential loss of these water sources need to be noted in the DEIS.

The reference to the views from the Little Lake Overlook is largely correct, but perhaps misleading. (Page 3-94). While the location of the HGLA is perhaps five to six miles to the north of the Overlook, it can be easily seen from the Little Lake Overlook and the entire surroundings of the Eastern edge of Little Lake. While the exploration for geothermal resources contemplated by the DEIS would not likely impact, to a material extent, the views, the placement and operation of a geothermal facility within the HGLA certainly could impact views from the Little Lake Overlook and other locations. Perhaps a greater explanation of the view impacts would be warranted.

The DEIS states that the issuance of the three pending lease applications will not authorize any construction or development of geothermal resources. (Page 4-2). Nonetheless, there are a multitude of references throughout the DEIS to the "development" of the resources. While the intent of the DEIS seems to limit its scope to exploration activities, there is an unnecessary confusion in the document as to whether or not development activities will be permitted or not. Since the form and terms of the actual leases are not provided, more clarity is demanded. A specific limitation on what will be allowed within the HGLA should be set forth and all references to the possibility of future development or construction of geothermal facilities should be eliminated.

The DEIS lists Coso Hot Springs as a "key surface water resource". (Page 4-42). LLR agrees. However, the following comment that the connection between the Hot Springs and the geothermal reservoir as being complex is evasive and incomplete. The monitoring data clearly reflects an immediate and severe link between Coso and the Hot Springs. The DEIS is a continuation of BLM's refusal to acknowledge the link between the geothermal production activities at Coso with Coso Hot Springs.

The identification of groundwater impacts from the current project seem odd, given the allowable groundwater pumping and transportation related to the Coso project. (Page 4-43). Coso has already been given permission to pump all, and perhaps even more than all, of the recharge to the Rose Valley Aquifer. Any additional pumping or usage of such water will not only be substantial, but disastrous. It is further unclear why the DEIS would list an impact as the decline in the productivity of the Coso operations itself. Why is any pumping from the Rose Valley Aquifer contemplated at all. Please explain.

It is more than disturbing that the DEIS acknowledges that the source and amount of water for development and operation of any geothermal facility has not been identified or confirmed. (Page 4-44). The statement that it is unlikely for future projected water needs to come from Rose Valley is also troublesome. Similar to this statement, the environmental studies conducted prior to the development of Coso reflected the likely unavailability of water sources in Rose Valley to supply Coso. Regardless of these cautions, BLM, Navy and County supported the pumping of a huge amount of underground water resources from Rose Valley despite public opposition. No project should be approved without the identification of adequate water resources, particularly in the desert. Please explain the justification for allowing any exploration when the source and adequacy of water resources is unknown and unproven.

A statement that increased groundwater extraction is unlikely to adversely impact the springs of Rose Valley except for Little Lake is not proven. (Page 4-45). A complete inventory of the springs has not been studied nor completed. LLR has further submitted proof that the withdrawal of groundwater, even from lower levels, could well impact the functionality of springs at higher elevations. (See the reports of Andy Zdon, copies of which are attached.)

The DEIS continues to perpetrate the misrepresentation that anyone can determine what a ten percent (10%) reduction in the current flow of water into Little Lake is. (Page 4-45). There has never been a study or report of what the amount of water flowed into Little Lake before the Coso pumping began. If the DEIS suggests that such flow is known, please provide the current analysis of what such flows were before the commencement of Coso's pumping. How does the DEIS propose to determine what will represent a ten percent (10%) decrease in such flow?

The DEIS suggests that make-up water will be needed to compensate for evaporative losses during plant operations. (Page 4-45). Some, but not all, of this loss is due to the evaporative wet cooling towers. No source of water to provide this make-up water has been identified. Why then has the concept of the dry cooling towers been eliminated from consideration? How can the BLM possibly consider the granting of further exploration and possible development of geothermal resources when the source of water is not known? Why are alternative technologies for the geothermal facilities excluded from consideration?

While the DEIS suggests that the BLM will prohibit or restrict by stipulation any groundwater extraction for consumptive use (Page 4-45), such stipulation is not plainly set forth in the DEIS. Moreover, most of the stipulations are further subject to exceptions or waivers on standards that are not plainly articulated. LLR supports the absolute prohibition of groundwater extractions in Rose Valley beyond those already permitted with respect to the Coso operations. There should be no exception or contingency that could allow otherwise.

The utilization of some minimal groundwater during the exploration phase is not necessarily opposed. (Page 4-46). The amount of groundwater that may be used to drill exploration wells or to control dust during exploration is nominal. While such extremely small amounts of water (i.e. less than twenty-five (25) acre feet per year ("AFY") would not be opposed, any other consumptive use of ground water would impose significant impacts upon the environment.

The DEIS estimates of water consumption during exploration and development is confusing if not contradictory. The DEIS suggest that only ten (10) AFY of water is necessary for each of two, thirty (30) MW geothermal plants (20 AFY for 2) but the DEIS obscures the fact that more water may be necessary during operations. (Page 4-46). Please clarify this difference.

LLR questions the impartiality of the consultants providing estimates and conclusions in the DEIS. The groundwater estimates are provided by the same consultant who analyzed the water resources for the Coso project. It is odd that the exact same consultants would reference their own conclusions from prior studies to support their current conclusions. (Page 4-46). Jill Haizlip, the same consultant used in the former Coso EIR, is now estimating that as much as two thousand three hundred forty (2,340) AFY would be needed per year for a typical thirty (30) MW dual flash geothermal plant.

No such figure was reported in the former EIR when Coso was seeking over four thousand eight hundred (4,800) AFY for its two hundred seventy (270) MW dual flash plant. This estimate is also based upon the presumption that a water cooling system would be used. Such amount of water is clearly not available from the Rose Valley or any other local water source. Why does the DEIS perpetuate a logical impossibility with respect to the amount of water that may be available to operate the geothermal facility using dual flash technology? More importantly, why does BLM reject, without any study whatsoever, the utilization in whole or in part of an air cooling system?

If the use of groundwater for consumptive use is prohibited (Page 4-45), where will the water come from? BLM cannot possibly approve leases which will obviously require water resources when the source of such water supplies has not been identified. The source of any needed water must be identified and confirmed before any discretionary approvals are granted.

It is interesting the Jill Haizlip provides an opinion of the needed make-up water to sustain fluid pressures of two thousand three hundred forty (2,340) AFY for a typical thirty (30) MW dual flash plant. How does that compare to the Coso experience? Is the injection of water at Coso working? Is there any demonstrated proof that the water being injected by Coso is sustaining or improving electricity production? Why is Coso allowed to inject approximately four thousand eight hundred (4,800) AFY for a single one hundred eighty (180) MW power plant (six times the power that Haizlip estimates will be produced), but only uses approximately twice as much injected water as Haizlip estimated)? (Page 4-46).

If the geothermal resource is harmed through water lost through evaporative cooling, why is this process even being considered? (Page 4-46). Why are not alternate technologies being considered, such as air cooling? It has already been demonstrated in other places around the world that air cooling does work, even in hot conditions at a much larger scale then proposed. (See attached reported uses of air cooling).

The injection of cool or cold water from an outside source also has the potential of seriously degrading the geothermal resource by cooling it off. What consideration has been given to this subject? Have the results obtained by Coso been studied to provide answers?

There would be no reduction in geothermal resources if all of the produced geofluids were re-injected. It is only because of the evaporative wet cooling process that there are geofluid declines using a dual flash system. Compare the total amount of energy that could be produced over a much longer period of time using different technologies compared to dual flash. Would an alternate geothermal production model substantially lengthen the expected life of the resource? (Page 4-47).

The statement in the DEIS that the Rose Valley Aquifer "is currently in a near steady-state, recharge to the valley is balanced by discharges" (Page 4-47) is simply

wrong and unsupported by the Coso monitoring data. The Coso pumping is causing a net reduction in the water and storage and demonstrates that the Rose Valley Aquifer is in a state of overdraft as a result. The DEIS must present whatever facts or evidence it purports to have in order to confirm this suspected, but unfounded conclusion.

It appears that the company Geologica has produced yet another numerical groundwater flow model called Geologica 2010. (Page 4-49). Why did not Geologica ignore the monitoring data from the Coso project? Why did Geologica ignore the modeled calibration performed by Daniel B. Stevens & Associates ("DBS") that was completed in 2011?

County has already required the cessation of all Coso pumping by September, 2013 to avoid exceeding the ten percent (10%) allowed reduction in water inflows at Little Lake. Pumping cannot resume until the underground aquifer has been completely restored to its pre-pumping levels. (See DBS report and County decision allowing for the continuation of pumping attached.) What impact will this have on the proposed leases?

It is unclear why Geologica was engaged to perform impact studies. The DEIS says that groundwater will not be used for consumptive purposes or will be severely restricted. (Page 4-50). If groundwater will not be used, then there is no reason to have impact studies. Please explain.

Why does the modeling analysis in appendix G assume that there is no other groundwater extraction? (Page 4-49). The fact is that Coso already has a pumping permit. Coso will be compelled to stop pumping to avoid the exceedence of ten percent (10%) water flow reduction into Little Lake in a matter of one (1) year. Obviously, any additional pumping for the Haiwee project would be cumulative and cause an even faster reduction in groundwater flows to Little Lake and the cessation of all pumping.

The DEIS also appears to be contradictory. It is unclear what consumptive use is proposed, disallowed or possibly allowed. (Page 4-50). The DEIS states that it would be restricted according to the stipulations, but these stipulations themselves do not authorize a particular amount of allowable pumping or use. The DEIS concludes that any impacts from such consumptive use would be moderate, but there is no way to ascertain the accuracy of the statement. Please confirm under alternative C that no consumptive use of groundwater would be allowed under any circumstances. (Page 4-51).

Confirm that under alternative D, all consumptive use of groundwater would be prohibited, without exception or waiver. (Page 4-52).

The DEIS describes the other energy projects located in and around Rose Valley. (Page 4-168). Each of such projects uses to a greater or lesser extent groundwater within Rose Valley. Despite earlier comments that the consumptive use of groundwater from Rose Valley will be prohibited, or severely restricted, the DEIS under the cumulative impact analysis states that additional water would likely be needed to sustain operation of

the RFD assumed geothermal plans during a thirty (30) year use for life. (Page 4-172). This statements appears to be completely at odds with the remainder of the DEIS and needs explanation or justification.

Coso is already utilizing all of the available recharge and more to replenish the aquifer within the Rose Valley. Coso's project alone will cause Little Lake to lose ten percent (10%) of its water inflows per the previously published numerical groundwater hydrology models ("Hydrology Model"). Thus, there is no more available groundwater to be used, regardless of what new Hydrology Models may be developed by Geological or any other hydrology consultant. All consumptive groundwater use should be absolutely prohibited from or within the Rose Valley.

If Coso were not pumping and transporting groundwater supplies, then the minor groundwater extractions suggested for exploration, construction, dust control and development likely would not cause any significant impacts on water supplies. (Page 4-173). However, The Coso pumping is not hypothetical-it exists and is continuing on a daily basis. Even minor or short term extraction projects such as suggested by DEIS could exceed the allowable pumping permitted to Coso and therefore represent an excessive use of groundwater and may further cause serious water declines at Little Lake.

This similar analysis would apply to each and all of the other projects which may arguably reply upon Rose Valley groundwater for development. By the time the DEIS was published, it was already outdated with respect to the Coso pumping and usage. The three thousand (3,000) AFY limit for Coso's maximum pumping expired one and a half years ago, and Coso has been allowed to pump at a rate of four thousand eight hundred thirty nine (4,839) AFY for a year and a half. According to the Hydrology Model, groundwater flows at Little Lake are not expected to exceed ten percent (10%), but this is based on modeling only and the Coso project is indeed expected to reduce those groundwater flows by a full ten percent (10%). Any additional pumping will exceed the ten percent (10%) limit.

It is unclear why the DEIS refers to the calculated extraction rate of seven hundred ninety (790) AFY for the Revised Groundwater Flow Model prepared by DBS ("Revised Model"). The Revised Model certainly did not suggest that an additional seven hundred ninety (790) AFY would be allowed in addition to the Coso pumping and still not exceed maximum impact levels. (Page 4-173). Please explain the implications and inconsistencies.

Update the DEIS as to the current amount of permitted extraction rate for Coso. (Page 4-173).

Why does the DEIS present simulated impact levels that assume no other extractions? (Page 4-174). The Coso project is a reality and it is occurring on a daily basis. Moreover, Coso's CUP will require it to entirely stop pumping by September 2013 to avoid exceeding the ten percent (10%) reduction threshold. No additional extractions

of groundwater can be allowed or permitted without exceeding the stated maximum impact level. Please explain.

The comment that Alternate A, C or D would not degrade groundwater is at best questionable. (Page 4-187). As noted above, the alleged stipulations do not plainly prohibit groundwater extractions to any extent or degree. Without clear and absolute limitations, there is a possibility of water supply degradation. Please amend this sentence.

BLM has reached out to a number of parties seeking comments in advance of the DEIS about its scope. It is noted that many commentators, including the undersigned, requested clarification about the quantity of water that would be needed and that its source be identified. (Page 5-10). Despite these requests, the DEIS has not identified the actual source of any necessary water supplies. Why not? The DEIS is contradictory in part by describing that no consumptive groundwater used will be allowed, other sections seemed to indicate that it is possible. The DEIS generally estimates what amounts of water may be needed under different scenarios, but again fails to identify a viable source. This omission must be corrected.

The balance of this letter will deal with the contents of Appendix G which is the numerical groundwater flow modeling report attached to the DEIS ("New Model"). The New Model has been updated with monitoring data collected from November, 2007 to November, 2009. (Page G-2) It is unclear why Geologica ignored all of the monitoring data collected by County since the inception of the Coso pumping beginning in December, 2009, a period of time over 2 ½ years ago. Moreover, it is also unclear why Geologica would <u>not</u> have used the new data, calibration and simulation models developed by DBS as recently as early 2011. Please explain why the most recent and reliable data has not been used nor any use of the DBS model was incorporated into the New Model. The Appendix G indicates that long term monitoring data was not available at the south end of the valley. (Page G-10). This is simply inaccurate given the monitoring data readily available as part of the Coso project. Please explain and update the entire New Model based upon available monitoring data.

Another fallacy of the New Model is that there is limited groundwater extraction in the Rose Valley. (Page G-15). This totally ignores the Coso pumping and transportation project. Why did Geologica ignore the actual level of current extractions?

Why does Appendix G refer to the Draft EIR for the Coso project from 2008, rather than the final EIR for Coso? (Page G-16)

The conclusion reached by Appendix G that groundwater inflows equal or slightly exceeded groundwater outflows during the past five years is suspect. (Page G-17) Does this consider or ignore the Coso pumping?

Several references are made to a few independent pumping tests conducted over the proceeding five years, including a 6 ½ day pumping test by LADWP in March, 2009. (Page G-18 and 6-25). The largest pumping test is actually the ongoing pumping by Coso. Again, why is the data ignored or not used as part of the New Model?

The New Model perpetuates some of the same errors that were contained in the original Hydrology Model. For instance, the New Model excludes the water activity occurring beyond the south edge of Little Lake, Coso Springs, siphon well and all of the riparian wetland areas south of Little Lake. (Page G-21) No support or justification is given. Please refer to all of the criticisms of the Hydrology Model provided by Andy Zdon as part of the Coso project, copies of which are attached. Because most of these errors have not been corrected in the New Model, virtually all of the problems and observations remain with respect to the New Model. Please address the deficiencies noted by Mr. Zdon.

Without using the available data, it is no wonder that the New Model does not represent a good study of the Rose Valley Aquifer. Geologica admits as much by noting that the New Model relies upon three short pumping tests rather than all of the intensive monitoring data collected during the Coso project. (Page G-40) Given the significant amount of data now available, there is no excuse for the DEIS to utilize the New Model to assume what the impacts on water resources throughout Rose Valley will be if any or all of the projects are approved.

Geologica repeats the estimate of necessary water provided by Haizlip in 2010 using the wet cooling technology for a 30 MW dual flash power plant would 2,340 AFY. (Page G-42) The DEIS does not provide the calculations or assumptions made by Haizlip to reach this estimate. Please provide the detailed information to determine the same. Moreover, reference should be made to the actual monitoring data from the Coso project which compares the amount of fluids produced versus the fluids re-injected. (See attached.)

Geologica, as part of its hydrology analysis, continues to make unsupported and unsubstantiated claims or conclusions regarding the reduction of geothermal pressures and the ability of geothermal reservoirs to produce for years. (Page G-42) There are no facts, evidence or studies provided to support the conclusions. Moreover, this still does not address the profound question of whether the overproduction of a geothermal resource ultimately shortens the life of the reservoir on a geological scale. Would the reduction of production lead to the prolonged and virtually inexhaustible flow of energy, although producing at a reduced rate currently?

Geologica assumes, again without evidence, that pressure decline could be reduced with greater rates of an injection. Where is the proof of this analysis? (Page G-42) Moreover, would an increased rate of injection by using colder water adversely effect the heat available from the geothermal resource?

The New Model purports to describe potential impacts to existing water well supply yields and the surface features at Little Lake. All of these impacts are based upon a calibrated New Model as of November, 2009, completely ignoring the Coso pumping. (Page G-43) By ignoring the Coso pumping, the entire simulated impacts are entirely worthless because the Coso pumping is a reality and a cumulative impact. How can that possibly be ignored in the impact analysis? Please explain. The impact analysis further completely ignores the forecasted water recovery program proposed by LADWP. This would again cause additional extractions from the Rose Valley Aquifer leaving to even greater and more severe impacts.

The DEIS was released for public comment in May, 2012. It is not only odd, but irresponsible, for the DEIS to suggest that the pumping rates for Coso beginning in December, 2009 are not known or that pumping rates have not yet been established. (Page G-43) Why does anyone bother to read the New Model in light of the obvious omissions and errors?

Before addressing the conclusions reached based upon the projection, note that all of the impact studies completely ignore the actual Coso pumping and the possible pumping from LADWP. (Page G-43) If and when such cumulative consumptive use is added, the impacts from any pumping will be exacerbated to an extraordinary degree and would cause devastating results.

Regardless of the observations above, the simulated impacts nonetheless reflect severe and unacceptable draw downs in the underground water levels of nearby wells. They also reflect a clear and obvious exceedance in the maximum reduction of water flows into Little Lake. (See page G-45 and figures G-12 through G-14)

The DEIS suggests that water could be extracted from a single well at a rate of 1,000 AFY for 30 years without reducing groundwater flow to Little Lake by more than 10%. (Page G-49) No graphic analysis is included Appendix G. Where is the data and where is the proof for this statement? It still ignores the actual pumping by Coso which is well in excess of this assumed pumping rate. Oddly, the New Model suggests that such a minor amount of pumping could still reduce the underground water level at the Little Lake Ranch North Well by 3.5 feet, which is nearly ten times the allowable draw down under the Coso FEIR, as updated and revised by DBS.

Has any effort been made to correlate the findings of the New Model with the DBS model? If not, why not?

Conclusion

There is an enormous amount of work that must be done before any final EIS can be approved by BLM. All of the hydrology studies are incomplete and inconclusive. They tend to completely ignore the actual monitoring data produced in the last two and one half years from the Coso project. This is not hypothetical or simulated data, but real

data related to pumping rates and the decline in the underground water levels. The data can also be of tremendous assistance in determining all of the parameters that must be considered to develop the New Model.

It is clear that virtually no consumptive use of water from the Rose Valley can or should be permitted under any circumstances. While an extremely small amount of water could probably be pumped and used for nothing more than exploratory purposes, in the range of less than 50 AFY over the life of the exploratory process, no other water usage should be allowed or permitted under any circumstances. Not only would such consumptive use exceed the threshold limits at Little Lake, but they could have a devastating impact upon the floral and fauna around the Rose Valley and Little Lake property in general.

It is submitted that the New Model must be entirely reformulated to account for the new monitoring data and resubmitted for public consideration. Moreover, the New Model must take into consideration the actual pumping being conducted by Coso at the current pumping rates over the life of the CUP issued by the County. Finally, the New Model should take into consideration the likely water reclamation project proposed by LADWP to avoid excessive pumping.

Very truly yours,

ARNOLD LAROCHELLE MATHEWS
VANCONAS & ZIRBEL LLP

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GDA:hp

cc: Little Lake Ranch

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Thursday, July 26, 2012

Jeff Childers, Peter Godfrey
HGLA Project Managers
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Dear Mr. Childers and Mr. Godfrey,

An Aside

Reading between the lines, I suspect HGLA DEIS has been caught up in BLM's desire to reduce, and perhaps the embarrassment of, the backlog of pending geothermal leases. Ignored, perhaps, is the detail that the three pending leases are abnormal, and that their status as 'pending' is an artifact of the proponent and its lack of specific proposal, not of the BLM.

The three leases and Deep Rose have a common proponent. Deep Rose is getting to be an old issue. It proposes very expensive deep drilling with little confidence and unknown probability of success. It's a wild-cat venture with no good way to measure risk. Understandably, the proponent has not been aggressive.

The same Deep Rose people are behind the three leases. The leases are the same character and risk as Deep Rose - speculative and risky because of the probable deep resource, if any. The risk and expense explain the lack of aggressive prosecution of the leases.

Meantime, with no specific proposal from the lease applicants, BLM is paying for the HGLA DEIS process. Normally EISs are paid for by a proponent. Essentially the BLM is using BLM's scarce resources where the proponent does not have confidence to use its scarce resources. This appears unwise. Of course an underlying suspicion is that the proponent is having difficulty getting the resource to fund the EIS.

The BLM should figure a way to make the proponent propose a configuration and pay for an EIS, or postpone indefinitely until that happens. Reducing the backlog is a minor issue.

Comments on the HGLA DEIS

Please accept these comments on the Haiwee Geothermal Leasing Area DEIS, BLM/CA/ES-2012-005+1793, DOI No. 12-6.

NEPA – Rigorous Evaluation

The DEIS analyzes potential impacts from an assumed power plant configuration, not a specific configuration. Since the DEIS does not and cannot assure that an actual power plant will be the same as the assumed power plant, it cannot do a rigorous impact evaluation. In fact, data from the exploration phase of a project is used to drive the design of the production plant. Without exploration data, the assumed configuration is no more than a guess. Thus, alternatives A, C and D, which describe a fictitious development, could lead to ground disturbing activities that have not been rigorously analyzed for environmental impacts.

This presents a fundamental problem. NEPA requires rigorous evaluation, and it is impossible to perform this NEPA's requirement without a specific proposal from an applicant. A fictional design won't do.

Because BLM is responding to an assumed configuration (2 ea 30MW plants) and is not responding to an actual configuration at a specific location, the DEIS includes such statements as:

- 'In the absence of quantitative data, impacts are described based on professional judgment…'
- "This chapter identifies explicitly all impact projections based on incomplete information or best professional judgment."
  (These appear in the DEIS Incomplete or Unavailable Information section, page 4-3, section 4.1.3)
  The second quote is irrational. Incomplete information and professional judgment cannot foster explicit projections. The same paragraph points out that BLM is using the 'best available information',

which, for lack of specificity, cannot substitute for real information when making the rigorous evaluation NEPA requires. Note that unreliable information could qualify as the 'best available' information.

It's inadvisable, perhaps even reckless, to generalize several of the more important environmental aspects. A specific proposal is needed to be explicit. In fact, since the plant can't be designed / specified without exploration, the development phase should be subject to a separate or revised EIS to analyze the impacts of whatever power plant design is indicated from exploration data.

Some of the categories where impact analysis can't be rigorous without a specific site proposal:

- Water: One of the large unknowns of this project is water availability. The DEIS states the source is unknown. The aquifer is fully allocated. The plant design can be radically different depending on water availability.
- Cultural: The HGLA area is culturally rich. Cultural density is never uniform. Until a site is chosen by a proponent, the level of impact to cultural resources can't be known without analyzing all the HGLA, which would be impractical and which the DEIS does not propose. A specific site is needed for cultural impact analysis to be rigorous.
- Visual: Topography varies in the HGLA, from relatively benign near 395 to rugged mountains east of 395. Only a generalized visual impact analysis is possible without a specific site. Relevant key observation points cannot be defined and analyzed.
- Recreation: Almost the entire HGLA is appropriate for recreation, some locations more than others. A specific site proposal is needed to be rigorous about estimating impacts.

To emphasize the NEPA requirement (at the risk of stating the already well known) the pertinent text is reproduced here:

> **Sec. 1502.14 Alternatives including the proposed action.**
>
> This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (Sec. 1502.15) and the Environmental Consequences (Sec. 1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies shall:
>
> (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
>
> (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
>
> (c) Include reasonable alternatives not within the jurisdiction of the lead agency.

With no specific proposal to evaluate, an EIS based on this DEIS, if used to authorize a project in the HGLA, would violate NEPA's Section 1502.14. Note that this section is identified by NEPA as the heart of an EIS.

The DEIS acknowledges that more analysis is needed.

- Section 2.2 (page 2-4) : "If leasing is authorized, the BLM will conduct additional site and project specific environmental analysis...". The DEIS does not state the form of the additional analysis.
- Section 2.3.1, Alternative A (page 2-13) (Identical wording for Alternatives C and D), with respect to OHV route designations: "...proposed project specific changes would be analyzed in a subsequent environmental document (EA or EIS) prepared for the proposed exploration or development project.". The DEIS states the subsequent anaylsis could be either an EIS or an EA.

Comment

Selecting either alternatives A, C or D does not satisfy NEPA, since the actual disturbing activity is not defined.

To satisfy NEPA, BLM must explicitly state that specific proposed ground disturbing activities will be addressed in a separate EIS, when the specific proposal is known.

Lease Application Backlog

Paragraph 1.2.1, page 1-6 of the DEIS, identifies BLM's requirement to reduce the backlog of geothermal lease applications, especially since BLM is already two years late. This is understandable. However, the form and structure of the DEIS implies that the DEIS will be the environmental impact statement for all three project phases – exploration, development and operation . Nowhere does the DEIS state that actual ground disturbing activities, following a lease approval, will require an additional EIS.

The Environmental Consequences section on page ES-vi, confusing at best, adds to the uncertainty. This paragraph states:

- ...real impacts could occur, but would not occur until a separate BLM action authorized development following lease issuance...
- ...analysis in the DEIS addresses impacts including exploration, drilling and utilization.

These confusing sentences imply that activities on the leased property require separate authorization(s), but the DEIS analysis addresses these impacts of all three of these activities.

The final sentence in this paragraph confuses the confusion. It talks of 'additional site specific analysis', but no site specific analysis to be added to has been discussed. This contradicts the previous sentence that analysis in the DEIS addresses impacts including exploration, drilling and development.

Further, approving a lease under this DEIS apparently allows ground-disturbing activities of exploration, development and operation of a geothermal facility, as stated on Page ES-i:

> *Leasing geothermal resources by the BLM vests with the lessee an exclusive right to future exploration and to produce and use of the geothermal resources within the lease area subject to existing laws, regulations, formal orders, and the terms, conditions and stipulations in or attached to the lease form or included as conditions of approval in permits.*

Is the impact statement in this DEIS is intended to serve as the impact statement for the three phases, exploration, development and production, under the lease? If such were to happen, it would represent an 'end-run' around the purpose and intent of NEPA and its regulations, since an actual geothermal activity would not have been analyzed. It would be a clear NEPA violation. This cannot be allowed.

Comment

BLM must craft a solution to the backlog of geothermal lease applications without bypassing its NEPA responsibilities. The backlog does not trump NEPA.

Purpose and Need

Adequate Alternatives

Section 6.2 of Handbook H-1790, the National Environmental Policy Act Handbook, states: "The CEQ regulations do not differentiate the "purpose" of the action from the "need" for the action.", and "Often, the 'purpose' can be presented as the solution to the problem described in the 'need' for the action".

The need for this action is succinctly stated in the first paragraph of section 1.2.2, on DEIS page 1-7:

> *The need for action is to allocate [classify?] specific lands in the HGLA as closed, open, or open with constraints to geothermal leasing. This EIS arises from three non-competitive lease applications that are currently pending with the BLM for approximately 4,460 acres of federal mineral estate. The need for action includes making a leasing decision for each of the three applications to grant, deny, or grant with modifications. These applications were received prior to the passage of the Energy*

Policy Act of 2005, and thus are included with others in the backlog covered by the requirement mentioned above.

The same purpose is stated in section 1.2.1

The purpose also includes responding to the increasing interest in geothermal leasing opportunities on federal land by addressing three pending geothermal lease applications

This is a very narrow and well defined need.

Comment

If the need to reduce the backlog of geothermal lease applications is the primary and overriding consideration, then the alternatives presented in the DEIS are a reasonable set.

Inadequate Alternatives

In contrast to the narrow and specific purpose and need of dealing with the three non-competitive lease applications, additional purposes and needs stated in the DEIS are wide and non-specific.

- The Purpose of Action, 1.2.1, includes Executive Order 13212, citing the passage: "... agencies shall take appropriate actions...to expedite projects that will increase the production ... or conservation of energy." This directive is not specific as to technology, location or size. It does not require the energy produced be renewable. Alternatives based on conservation of energy, not production, would satisfy this directive.
- The Purpose and Need for Action (page ES-ii), and Purpose of Action (page 1-6) cite additional purpose and needs:

Purpose	Comment
1) Develop clean, renewable energy.	This could be accomplished by any of the technologies currently being implemented in the country, on or off the HGLA. Examples are wind and solar.
2) Meeting the increasing energy demands of the nation.	This could be accomplished by the same techniques and technology as 1). It could also be accomplished by increased gas and oil production and increased efficiency programs.
3) Reducing reliance on foreign energy imports.	This could be accomplished by any form of domestic energy production, including but not limited to geothermal.
4) Reducing greenhouse gas emissions.	Most forms of renewable energy are thought to do this.
5) Improving national security.	

These stated purposes are general, and are not specific to any one technology. In fact, EO 12312 does not mention why it orders expediting production and conservation of energy, and does not mention renewable energy.

According to NEPA requirements, the alternatives presented in the DEIS to satisfy these wide and non-specific purposes and needs are inadequate, since the alternatives presented are restricted to geothermal and are specific to the HGLA.

The CEQ 40 FAQs (NEPA's Forty Most Asked Questions) (http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm) is specific about alternatives:

- 1a: Range of Alternatives: "...includes all reasonable alternatives, which must be rigorously explored and objectively evaluated, as well as those other alternatives, which are eliminated from detailed study with a brief discussion of the reasons for eliminating them. Section 1502.14.
- 2a: Alternatives Outside the Capability of Applicant or Jurisdiction of Agency: "Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. ... emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative.

Comment

BLM must expand the alternatives discussed in the DEIS to other technologies and locations, to satisfy the five purposes listed on pages ES-ii and 1-6, (shown in the table above), and EO 13212.

Inapplicable Purpose and Need

- Paragraph 1.2.1.2 on page 1-7 of the DEIS cites section 222(d)(1) of the Energy Policy Act of 2005. This cite appears to be a misquote:

Document **Energy Policy Act of 2005, Aug 8, 2005** http://www.gpo.gov/fdsys/pkg/PLAW-109publ58/pdf/PLAW-109publ58.pdf	**Document** **HGLA DEIS** Page 1-7
Section SEC. 222. COMPETITIVE LEASE SALE REQUIREMENTS (d) PENDING LEASE APPLICATIONS.— (1) IN GENERAL.—	**Section** "Section 222(d)(1) of the Energy Policy Act of 2005 states,"
It shall be a priority for the **Secretary, and for the Secretary of Agriculture** with respect to National Forest Systems land, to ensure timely completion of administrative actions, including amendments to applicable forest plans and resource management plans, necessary to process applications for geothermal leasing pending on the date of enactment of this subsection.	"It shall be a priority for the **Secretary of the Interior** to ensure timely completion of administrative actions, including amendments to applicable Resource Management Plans (RMP), necessary to process applications for geothermal leasing pending on the date of enactment of this subsection."

The wording difference between the DEIS reference and the text of the EPAct/2005 above is bolded.

This section of the EPAct/2005 is not applicable to BLM. Paragraph 222(d)(1) refers to the "Secretary and for the Secretary of Agriculture...", where 'the Secretary means the Secretary of Energy. Nothing in this section directs the Secretary of the Interior or the BLM. This Section does not qualify as a purpose and need for this activity.

- Paragraph 1.2.1.2 cites section 211 of the Energy Policy Act of 2005. It directs the Secretary of the Interior to approve non-hydropower renewable energy projects of at least 10,000 MW by August 8, 2015 (ten years after passage of the EPAct of 2005).
  The approved capacity, according to data taken on June 28, 2012 from the undated BLM website: http://www.blm.gov/wo/st/en/prog/energy/renewable_energy/Renewable_Energy_Projects_Approved_to_Date.html for these categories of renewable energy is 8,437 MW. At the current high rate of approval the total will certainly exceed 10,000 MW by 2015, three years from now.
  This Section does not qualify as a purpose and need for this activity.

Comment

These purposes and needs should be removed from the EIS.

General Comment

Postpone the EIS project until the applicant/proponent shows enough interest and confidence to make a specific proposal and to pay for the environmental analysis.

Sincerely,

Tom Budlong

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August 2, 2012

VIA EMAIL

Bureau of Land Management
California Desert District Office
Attn: Peter Godfrey, HGLA Project Manager
22835 Calle San Joan de Los Lagos
Moreno Valley, CA 92553

Re: Comments on Draft Environmental Impact Statement for the Haiwee Geothermal Leasing Area and California Desert Conservation Area Plan Amendment

Dear Mr. Godfrey:

We are writing on behalf of California Unions for Reliable Energy regarding the Draft EIS and Draft Proposed Amendment to the California Desert Conservation Area Plan for the Haiwee Geothermal Leasing Area ("HGLA"). The BLM has identified Alternative C as the preferred alternative in its NEPA analysis. Alternatives C and D would open the HGLA to geothermal exploration ***and*** development.

We appreciate the work that BLM has invested in this process, and we enthusiastically support the efforts of the Obama administration to develop renewable energy. These efforts have helped dramatically expand renewable energy while creating thousands of good jobs. We want to see the Obama administration continuing to expand renewable energy and create jobs in a way that is environmentally sustainable over the long term.

However, we are concerned that the BLM intends to use the proposed EIS to approve future development proposals and grant exceptions to the proposed list of lease stipulations. The BLM's use of the proposed EIS in this manner would permit environmental impacts to occur that were not evaluated in a NEPA document. The BLM must affirmatively require all future development proposals to conduct subsequent NEPA review.

NEPA declares it a matter of federal policy to preserve important historic, cultural and natural aspects of our national heritage. To achieve this goal, NEPA requires that agencies take a "hard look" at the environmental consequences of a proposed action.[1] "General statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided."[2] An EIS must account for the "specific impacts" of a project.[3]

If the BLM relies on the proposed EIS to approve future development proposals, the BLM will not be taking a hard look at the project's "specific impacts." In fact, the Draft EIS admits that "it is difficult to quantify specific, direct impacts . . . on locations or specific resources."[4] Specifically, impacts to air quality, wildlife- and plant-species, surface waters, traffic, and mineral resources may not be accurately assessed without specific project construction and development information.[5] Because it is impossible for the Draft EIS to take a "hard look" at the specific impacts of a future geothermal project, the BLM must require subsequent NEPA review when specific development projects are proposed.

In addition, the BLM must require that all exceptions to the proposed lease stipulations be supported with subsequent NEPA review. As described in the Draft EIS, a lease stipulation is a condition of lease issuance that identifies processes or requirements that the lessee shall follow during all phases of the lease.[6] The proposed lease stipulations included in the Draft EIS protect sensitive resource areas, sensitive species and their habitats, historic properties and water resources from impacts associated with future geothermal development.[7] If the BLM grants an exception to any of these lease stipulations, it must take a "hard look" at the environmental consequences of its action.[8]

---

[1] Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989); *Dubois*, 102 F.3d at 1284 (1st Cir. 1996); *see also* S. Fork Band Council of W. Shoshone of Nev. v. U.S. Dep't of the Interior, 588 F.3d 718, 727 (9th Cir. 2009).
[2] Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d 1372, 1380 (9th Cir. 1998).
[3] Muckleshoot Indian Tribe v. U.S. Forest Serv., 177 F.3d 800, 810 (9th Cir. 1999).
[4] Draft EIS, p. 4-2.
[5] *Id.* at p. 4-15, 4-60, 4-113, 4-136, 4-187.
[6] Draft EIS, p. 2-28.
[7] *See id.* at pp. 2-29 to 2-44.
[8] *See* Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989); *Dubois*, 102 F.3d at 1284 (1st Cir. 1996); *see also* S. Fork Band Council of W. Shoshone of Nev. v. U.S. Dep't of the Interior, 588 F.3d 718, 727 (9th Cir. 2009).

We request that the BLM affirmatively require all future development proposals to prepare subsequent NEPA review before permits are granted or exceptions to lease stipulations are approved. By faithfully complying with the requirements of NEPA, BLM will help ensure that development of renewable energy on BLM land will be sustainable, and the renewable energy potential of the area will be fully realized.

Sincerely,

Robyn C. Purchia

RCP:clv

Rose Valley Properties, LLC
9590 Prototype Court Suite 200
Reno, Nevada 89521.

Bureau of Land Management, California Desert District Office,
Attn: Peter Godfrey, Haiwee Geothermal Leasing Area
22835 Calle San Juan De Los Lagos
Moreno Valley, California 92553

Subject: Comments on the Draft EIS of the Proposed Leasing of the Haiwee Geothermal Leasing Area

Dear Mr. Godfrey:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) of BLM's proposal to lease the Haiwee Geothermal Lease Area (HGLA) located in Inyo County, California. While Rose Valley Properties, LLC is supportive of competitive geothermal development, we are concerned with the lack of cumulative impacts within the DEIS. Rose Valley Properties, LLC is of the opinion that a competitive bidding process provides the level playing field, and allows for additional revenues to BLM to support the often-lengthy permitting processes, which typically requires additional staff resources.

Furthermore, any development of a geothermal resource in this particular area should be aware the depth of environmental concerns and existing resources that could be impacted by this project, which we have included as an attached comment matrix to this letter.

Rose Valley Properties, LLC is supportive of utilization of BLM lands for renewable energy development, as long as it is accomplished in a competitive, non-discriminatory manner and provides the best use of the renewable resource without significantly affecting other stakeholders. We believe it is incumbent upon the BLM to take in consideration the attached comments to review and address the resources that assures the best use of the land – both in terms of economics and in relation to impacts to the environment.

Sincerely,

Mark A. Casper
Rose Valley Properties, LLC

Haiwee Geothermal Leasing Area Commenting Matrix

Comment Number	Commentor	Organization (If Applicable)	Date	Page	Paragraph	Comment
1					3	Please provide the specific leases referred to in this Section as an attachment to this EIS.
2				ES-iii	3	Geothermal lease suitability comes from geological and hydrological studies conducted in the leasing area. It is not clear as to how the determination from this document will classify the pending lease applications suitable for geothermal development.
3				ES-iv	2	Please provide the responses to the comments in this section.
4				ES-iv	5	Alternative A: This document uses the phrase that "maybe water will be allowed for some leasing applications" geothermal projects. All geothermal projects require water for exploration, construction and operation. The language should say "will need water" instead of "maybe allowed".
5				ES-v	4	Same comment as Alternative C above.
6				ES-vi	1	6th line typo – Change KRGA to KGRA
7				ES-vi	1	The KGRA is term is in wide use today and widely used by geothermal development referencing.
8				ES-vi	1&2	The terms are Likelihood and assumptions are weak for reasonable foreseeable development.
9				ES-vii	4	Soils: long term, there would be storm water runoff. A stipulation should be made that pads need to be constructed with a slope to the sump to prevent erosion.
10				ES-vii	5	Water Resources: How will water use be monitored? Will water use rely solely on produced water after the wells have been drilled?
11				ES-viii	1	Public Health and Safety; H_2S is a safety concern in geothermal use in this area. A plan for H_2S monitoring should be included with the possibility for the use of H_2S abatement or control.
12				1-7	6	Please provide a rationale for additional lands within

						the HGLA having the potential for geothermal resources.
13				2-9	2	The document needs to include specifics per the Geothermal Resource Operational Orders (GROs) to well spacing and well pad size for proper impacts to the environment. There needs to be a discussion on the waste generated from drilling such as drilling muds and cuttings. Drilling will result in the use of water and in the emission of pollutants that are not accounted for in this document.
14				2-9	4	Depending on the size of the pipeline, there could be significant amount of permanent surface disturbance to state protected Mohave ground squirrel and federal protected desert tortoise habitat from the installation of the pipeline. The EIS isn't very clear on if the pipeline will be buried along the roads or will be installed on the surface. There isn't any consideration for disturbed surface of expansion loops. Also, there should be some discussion due to the many transmission lines in the area that the pipeline will need to meet the electrical requirements for electric potential corrosion.
15				2-10	1	The amount of days anticipated for drilling each well seems to be estimated for a shallower well than the wells described in the EIS as having to drill deeper for the resource within the HGLA. Please include the number of days for deep well drilling as anticipated.
16				2-11	1	The document needs to consider the evacuation of power from the site via substation interconnects and transmission lines. Are the leases contemplated adequate for the evacuation of power from the site? The surface disturbance of the inter-connects and transmission lines must be included in the impact analyses.
17				2-25		Geothermal Technologies: The probability of Hydro-fracturing at the proposed depth of the wells in the HGLA should be mentioned and subsequent impacts discussed.
18				2-31	Known MGS	The entire HGLA is presumed MGS habitat. Mitigation would still need to be a stipulation for the approval process.

19				2-33	Cultural	The HGLA is located within the Sugarloaf District (SL) and therefore the CRMP for SL should be followed.
20				2-36	Biological	Section 7 consultation needs to be initiated by BLM to the USFWS for determination of a Biological Opinion for the HGLA
21				2-36	Biological	A qualified biologist should be present during all construction projects during all times of year
22				2-	Biological	Prevention of noxious weeds should be in this section, i.e. equipment & vehicle wash areas, etc.
23				2-42	SA-HGLA-10	What is Inyo County's "Safe Yield"?
24				2-47	Air Quality	The impact analysis requires the impacts of all released pollutants through dispersion modeling. There is no consideration of the drift or the mention of air analyses studies.
25				2-53	Water Supplies BMPs	The EIS does not address long-term water of plant operational impacts on existing water supply.
26				3-7	GHG	Geothermal is exempt from Cap and Trade, however, geothermal in CA is required to report GHGs to CARB
27				3-57	Wildlife	The CADFG might require a development of a translocation Plan for the MGS and DT prior to ground disturbance as part of the updated CDCA.
28				3-57	Wildlife-last bullet	Should add that a biologist be on site during the entire construction period.
29				3-59	Invasive	There is no discussion of construction equipment transporting noxious weeds into the construction areas. An equipment and vehicle wash area needs to be a stipulation.
30				3-104	3.11-1 Table	Is the CACA 47464 Water Pipeline for Exploration or Operations?
31				3-105	3	There needs to be a discussion on the use of BMPs for drilling wastes that are generated.
32				3-108	4	Deep Rose has not practiced any dust mitigation BMPs thus far during their construction of the access road and well pad. Stipulations are required for the mitigation of dust generated during construction and then ongoing for the entirety of the project.

33					General Comment	Please provide potential impacts and mitigation steps for private and public landholders who have mineral and water rights in areas directly surrounded by the proposed lands to be leased.
34					General Comment	Inyo County has evaluated the true groundwater recharge capability of the Rose Valley. No new geothermal development should occur until the recharge to the basin is better known. The county is currently evaluating projects that may have additional impacts to the basin. These impacts also need to be considered in any BLM review.
35					General Comment	Drilling geothermal wells within the proposed area could compromise the water quality in the Rose Valley Basin.

Defenders of Wildlife
Sierra Club
Kerncrest Audubon Society

August 2, 2012

Peter Godfrey, HGLA Project Manager
California Desert District
Bureau of Land Management
22835 Calle San Juan de Los Lagos
Moreno Valley, CA 92553
(Via email: pgodfrey@blm.gov)

Re: Comments on Draft Environmental Impact Statement for the Proposed Haiwee Geothermal Leasing Area

Dear Mr. Godfrey:

Thank you for the opportunity to review and provide comments on the Draft Environmental Impact Statement (DEIS) for the Proposed Haiwee Geothermal Leasing Area (HGLA). These comments are submitted on behalf of Defenders of Wildlife ("Defenders"), the Sierra Club and the Kerncrest Audubon Society.

Defenders is a national conservation organization with 1.1 million members and supporters nationally, including 67,000 in California. Defenders is dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

The Sierra Club is a national nonprofit organization of approximately 1.3 million members and supporters (approximately 250,000 of whom live in California) dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Sierra Club's concerns encompass protecting our public lands, wildlife, air and

water while at the same time rapidly increasing our use of renewable energy to reduce global warming.

The Kerncrest Audubon Society is a chapter of the National Audubon Society, representing those members who live in the Indian Wells and Kern River Valleys and the Northern Mojave Desert. They conduct activities that provide opportunities to learn about wildlife, especially birds, and their natural surroundings. The chapter worked with the Ridgecrest Field Office of the BLM to construct a Watchable Wildlife facility at an overlook above Little Lake and conducts field trips to that site and to the lake.

Defenders attended a BLM scoping meeting for the proposed HGLA in Ridgecrest in 2009 and submitted written scoping comments on November 5, 2009. We have reviewed the DEIS for the HGLA and offer the following comments for consideration in preparing a Final Environmental Impact Statement (FEIS):

1. Affected Environment – Land Use Classification

In 2006 BLM approved Alternative B of the West Mojave Plan which amended the California Desert Conservation Area (CDCA) Plan. This decision established the Mohave Ground Squirrel Wildlife Habitat Management Area (WHMA) and designated 136,230 acres of public land to Limited Use Class to provide greater protection of public land habitat for this species. According to the CDCA Plan, Limited Use Class "...protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished." CDCA Plan, as amended, p. 13.

Comment. BLM should recognize and apply the management standard for Limited Use Class lands affected by the HGLA and demonstrate which of the alternatives meet this standard. Those that do not should be identified as such in the FEIS.

2. Wildlife Element of the CDCA Plan – Habitat Management

In addition to the management standards for Limited Use Class lands, management of wildlife habitat and its resources under the provisions of the Wildlife Element of the CDCA Plan relies on two additional primary tools, Areas of Critical Environmental Concern (ACECs) and WHMAs. Resolution of conflicts within a Multiple Use Class

relies heavily on applying the management goals and objectives contained in the Wildlife Element in general and those associated with planned management areas such as ACECs and WHMAs. As noted in our scoping comment letter, the BLM's purpose in designating the Mohave Ground Squirrel WHMA in 2006 was to "...facilitate protective management for this species and serve to prevent further declines and assist the CDFG." The two primary goals with respect to the MGS are to: 1) Ensure long-term protection of MGS habitat throughout the region, and 2). Ensure long-term viability of the MGS throughout its range. Record of Decision, West Mojave Plan, 2006.

Comment. BLM should analyze each of the alternatives to determine whether or not they are consistent with the purposes of the Mohave Ground Squirrel WHMA. Those that do not should be identified as such in the FEIS.

Comment. Also noted in our scoping comments, prior to the West Mojave Plan amendments in 2006, BLM had already made commitments for conserving the Mohave Ground Squirrel in Rose Valley which includes much of the Proposed HGLA. In the CDCA Plan of 1980, BLM established the Rose Valley Habitat Management Area specifically for the Mohave Ground Squirrel. According to the CDCA Plan, this 18,000 acre was to be managed to "Protect, Stabilize and/or Enhance Wildlife Values. CDCA Plan, Table 2, Planned Management Areas for Fish and Wildlife. According to our estimate, approximately 11,000 acres of this area is within the Proposed HGLA. The Rose Valley Habitat management Area is nested within the larger Mohave Ground Squirrel management area established by BLM in 2006. These two designated management areas each have management goals and objectives which are complimentary. The Rose Valley plan was to be prepared in cooperation with the California Department of Fish and Game under provisions of the Sikes Act.

Comment. BLM should analyze each of the alternatives and determine whether or not they are consistent with the management goals and objectives of the Rose Valley Habitat Management Area. Those that do not should be identified as such in the FEIS.

Comment. The management requirements of the Mohave Ground Squirrel WHMA include not only a one-percent cap on habitat loss, but also a compensatory habitat loss requirement. The latter provision is absent from the description of the existing

regulatory environment. BLM should account for the amount of habitat loss on public lands that has occurred since 2006 and identify how much more habitat could be lost while complying with the one-percent loss threshold. Since the Mohave Ground Squirrel WHMA covers a much larger area than the Proposed HGLA, BLM needs to determine how much additional habitat loss in the Rose Valley area is appropriate considering a variety of factors including cumulative habitat loss, condition and trend and essential habitat linkages for this species.

3. Mohave Ground Squirrel Occurrence and Habitat in the Proposed HGLA

The DEIS gives brief description of the Mohave Ground Squirrel in the Rose Valley region in relationship to the Proposed HGLA. The occurrences of this species were based on literature reviews, studies and discussions with agency biologists.

Figure 3.7-1 in the DEIS is a map of "Known Areas of Mohave Ground Squirrel Occurrence." There are no occurrences indicated within the boundary of the Proposed HGLA.

Comment. In April of 1980, BLM published the "Field Ecology Technical Report on the Coso Geothermal Study Area" which was prepared under BLM contract with Rockwell International. Philip Leitner was the lead investigator and author of this report. His field studies included systematic live trapping and opportunistic sightings of the Mohave Ground Squirrel in the Coso Geothermal Study Area, some of which occurred within and adjacent to the proposed HGLA. Live trapping and sightings were reported in Rose Valley immediately east of Coso Junction, west of Highway 395 near the L.A. Aqueduct, near the NAWC boundary near the Coso Gill Station Road, and near the Pumice Mine in the far western portion of the HGLA. BLM should obtain this document and include the occurrence data for this species within the Proposed HGLA in the FEIS.

4. Environmental Consequences – Mohave Ground Squirrel

Impacts to the Mohave Ground Squirrel and a process for identifying possible future on-site mitigation are described in the DEIS, Chapter 4, p. 66:

"To reduce these potential impacts to this species a lease applicant shall fund, or share in the private-sector funding of, protocol level surveys for Mojave (*sic*) ground squirrel occupancy. The surveys shall follow protocol acceptable to the CDFG and BLM and shall include suitable habitat within the HGLA. If Mojave (*sic*) ground squirrels are

detected, the lease Applicant shall consult with BLM and CDFG to establish additional on-site measures to protect the areas occupied by the Mojave (*sic*) ground squirrel."

Comment. Based on existing information on the occurrence of the Mohave Ground Squirrel in and around the Proposed HGLA, including the BLM-published report "Field Ecology Technical Report on the Coso Geothermal Study Area" we do not consider additional field surveys for this species are necessary or warranted. Existing information on vegetation communities and occurrence of this species in Rose Valley indicate that most of the Proposed HGLA is suitable habitat and occupied by this species. Exceptions would include rocky terrain and steep slopes.

The primary mitigation strategy should be avoidance, followed by impact minimization, and lastly, compensatory mitigation for unavoidable impacts.

Comment. Requiring a permit applicant to conduct protocol surveys for the Mohave Ground Squirrel is not a form of mitigation. Furthermore, the DEIS is vague as to whether or not any additional onsite or offsite conservation measures would be required, and any such measures that could be required in areas occupied by the species. BLM has already established that the entire Proposed HGLA is a conservation area for this species. BLM should clearly articulate how it intends to fulfill its management commitments to conserve this species in the FEIS in consultation with the California Department of Fish and Game.

Comment. Based on our recent field visits to the Rose Valley and the Proposed HGLA, we recommend that the elimination of sheep grazing be considered an effective compensatory action to offset or minimize unavoidable impacts to the Mohave Ground Squirrel and its habitat resulting from geothermal exploration and development.

Comment. Various chapters of the DEIS (e.g., Alternatives, Environmental Consequences) include a reference to "recognized Mojave (*sic*) ground squirrel core habitat." No references are given for this term although we think it is a term used by Leitner (e.g., *in* Current Status of Mohave Ground Squirrel, Trans. West Sect. Wildl. Soc. 44:2008). He delineated areas where the species appeared to persist over time based on results of live trapping surveys conducted since 1998. He cautioned that "core areas" were those geographic areas identified based on limited sampling to date

and should not be considered complete or comprehensive, or applicable across the range of the species because they were not based on systematic range-wide surveys.

Comment. BLM carefully and methodically addressed Mohave Ground Squirrel occurrence and habitat suitability across the West Mojave Planning Area in support of the West Mojave Plan and CDCA Plan amendments in 2006. It considered the concept of "core areas" but rejected that in favor of a broader scale occurrence and distribution of the species based on analyses of habitat parameters, including plant composition within areas where Mohave ground squirrel occurrence had been confirmed. We recommend BLM consider and apply the information on Mohave Ground Squirrels contained in its West Mojave Plan, Appendix M, in the FEIS for the Proposed HGLA. We strongly recommend that the concept of or reference to "core areas" for this species be removed. As an alternative, such areas could be considered areas that appear to be important for persistence of the Mohave Ground Squirrel but are based on limited and incomplete data.

Comment. The USGS is working on a habitat suitability model for the Mohave Ground Squirrel under a contract from the California Energy Commission. Their report should be available in the near future. We strongly recommend BLM use this habitat model in refining development exclusion areas in the proposed HGLA proposed under Alternatives C and D.

Comment. Areas proposed for exclusion from exploration and development under alternatives C and D should be modified to include suitable habitat providing habitat linkages for the Mohave Ground Squirrel between Rose Valley and McCloud Flat. It is highly likely the species occurs in bottoms of the larger canyons in the western Coso Range that contain soils and vegetation suitable for burrowing, foraging and shelter. The forthcoming USGS habitat model should help in delineating these areas.

5. Little Lake and Wetlands

We are pleased BLM recognizes the importance and sensitivity of wetlands associated with Little Lake and that approximately 10 acres of surface water at Little Lake are in public ownership.

Comment. Under the provisions of the CDCA Plan, as amended, wetlands including riparian habitat associated with surface and groundwater, are classified as Highly

Sensitive Unusual Plant Assemblages and BLM's stated management policy and objectives for these areas is to:

A. Avoid the long-term and short-term impacts associated with the destruction, loss, or degradation of wetland and riparian areas;
B. Preserve and enhance the natural and beneficial values of wetland and riparian areas which may include constraining or excluding those uses that cause significant long-term ecological damage;
C. Include practical measures to minimize harm in all actions causing adverse impacts on wetlands and riparian areas; and
D. Retain all wetlands and riparian habitats presently under BLM administration wherever high resource values exist and adverse impacts cannot be mitigated.

We recommend that the FEIS address these management policies and objectives and reveal to what extent each of the alternatives would allow BLM to comply with these policies and objectives. Those that are consistent as well as inconsistent with these policies and objectives should be identified as such in the FEIS.

6. Water Resources

The DEIS describes the sensitivity of groundwater underlying Rose Valley and its direct relationship in maintaining Little Lake and its associated biological resources. As BLM is aware, the Hay Ranch Water Extraction and Water Delivery Project, approved in 2009 by the County of Inyo and BLM, consumes approximately 3,000 acre-feet of Rose Valley groundwater annually and is the largest single groundwater extraction operation in the valley. According to the DEIS, the current estimated groundwater recharge for Rose Valley is 5,100 acre-feet. The Hay Ranch project delivers groundwater to the Coso Operating Company's geothermal project within the Naval Air Weapons Station, approximately nine-miles to the southwest of the project's production wells. Pumping and water delivery began in late 2009 and was needed to restore water associated with the steam reservoir which had been depleted by ongoing geothermal operations, resulting in declining energy production.

The DEIS indicates groundwater recharge and extraction within the Rose Valley is nearly balanced or at steady-state, and that any additional consumptive use of groundwater would result in localized or more wide-spread draw downs in groundwater because extraction would exceed natural recharge. Such drawdown of

groundwater would eventually cause significant impacts to Little Lake and its wetland resources, including dependent wildlife.

The DEIS indicates that the Reasonable Development Scenario would require groundwater consumption of approximately 20 acre-feet per year for well drilling and dust control and up to 4,680 acre-feet per year for the two geothermal plant operations.

Comment. We are pleased that BLM, in recognition of the sensitive groundwater situation in Rose Valley and public comments, has determined that it is necessary to prohibit or restrict any groundwater extraction in the HGLA for consumptive use in support of geothermal exploration, development and operations. This is especially important considering that BLM has determined that approximately 4,700 acre-feet of water would be needed annually to support geothermal development and operation in the proposed HGLA. There simply isn't enough water available to support any level of development on a sustained and environmentally acceptable basis.

Comment. Given that the Hay Ranch Water Extraction and Water Delivery Project consumes approximately 3,300 acre-feet per year of Rose Valley groundwater, we recommend BLM account for all the additional groundwater consumption in the basin to build a stronger case concluding there is little, if any, additional groundwater available for consumption based on the estimate that the total natural recharge is 5,100 acre-feet per year. According to monitoring reports from the Inyo County Water Department, 8,322 acre-feet of groundwater have been pumped from Rose Valley from 12/25/09 through 6/13/12 in support of the Coso Hay Ranch project.

Comment. Groundwater pumping that has been modeled to cause a maximum of 10% decline to the average annual amount of water flowing into the surface features at Little Lake has already been permitted under Coso Operating Company's Hay Ranch Water Extraction and Delivery Project (CUP 2007-003/Coso Operating Company, LLC). Under that CUP issued by the County of Inyo, Coso Operating Company has been granted permission to pump at their stated needed rate for a limited period of time (2 years and 8 months) at which point the projected impact to wetlands at Little Lake would reach the maximum allowable 10 percent reduction of water flow into the lake environment. Numerous background documents and monitoring reports on this subject may be found at www.inyowater.org/default.htm. In summary, existing levels of groundwater consumption in Rose Valley are already

projected to cause a significant adverse impact to the wetland environment at Little Lake. The FEIS should account for this in the analysis of existing and cumulative impacts associated with groundwater consumption.

Comment. Since additional Rose Valley groundwater consumption would result in a negative balance with regard to natural recharge, we recommend that BLM clearly state that under all alternatives, additional groundwater consumption would not be allowed, even for short-term uses associated with exploration, construction and dust control.

7. Cumulative Impacts

Chapter 4 of the DEIS addresses cumulative impacts to biological resources in a general way:

"Concerning listed species, the accelerated loss of habitat, combined with the increased potential for losses of burrowing or slow-moving species, such as the Mojave (*sic*) ground squirrel and desert tortoise, would represent the most significant cumulative impact from the HGLA RFD and other nearby developments. Development consistent with the proposed action, in conjunction with other projects, would diminish habitat availability and quality, and potentially result in the "taking" of these species. Stipulations, permitting requirements, and agreements between the California Department of Fish and Game and the BLM, including compliance with Section 7 of the ESA, could minimize such impacts. However, other existing and proposed developments, such as solar energy projects, typically impact and alter thousands of acres and thus can have significant impacts to local populations of listed plant and wildlife species. The increase in the associated number of roads and transmission lines would result in additional losses from collisions."

Lacking is an accounting of specific direct and indirect impacts of land uses in terms of acres of habitat lost and direct impacts to key species of concern such as the Desert Tortoise and Mohave Ground Squirrel.

Comment. BLM should provide a much more definitive cumulative impact analysis for the affected region that focuses on the Rose Valley extending from Little Lake to Haiwee Reservoir and from the Coso Geothermal field to the base of the Sierra Nevada. We consider it especially important that this analysis account for public land habitat impacts and loss authorized by BLM since the West Mojave Plan amendments

were signed in 2006 establishing the Mohave Ground Squirrel WHMA, as well as those occurring on public lands within the Rose Valley Habitat Management Plan Area since the CDCA Plan was signed in 1980. It is especially important to include habitat loss associated with all of the geothermal support facilities located near Coso Junction and the water pipeline for the Hay Ranch Water Extraction and Water Delivery Project approved by BLM in 2009. Impacts to habitat linkages through the Rose Valley area should be addressed in the FEIS.

8. Alternatives

BLM has proposed five alternatives including "No Action." Some of alternatives call for protection of lands from impacts due to geothermal exploration and development. Such protection would be achieved through "no surface occupancy" designation (Alternative C) or by designating areas "closed and unavailable for geothermal leasing" (Alternative D). Such areas, according to the DEIS, are largely based on Mohave Ground Squirrel "core areas." Alternative B would close the proposed HGLA to geothermal exploration and development and the existing three non-competitive lease applications would be cancelled.

Comment. Considering the Mohave Ground Squirrel habitat conservation requirements stemming from the Mohave Ground Squirrel WHMA in 2006 and the Rose Valley Habitat Management Area in 1980, we strongly recommend BLM develop and analyze an additional alternative that is based on meeting its management goals and objectives for conservation of the remaining habitat for the Mohave Ground Squirrel in Rose Valley including the Proposed HGLA. Conservation alternatives should not be limited to minimizing impacts but should include impact avoidance and additional measures to protect, stabilize and enhance habitat. This is especially relevant considering that BLM has continued to authorize habitat loss in support of various land use activities since 1980 and 2006, such as livestock grazing, new roads and a major water pipeline through Mohave Ground Squirrel habitat in Rose Valley.

Comment. Please expand on the nature and effectiveness of "no surface occupancy" and "closed to geothermal leasing" in the FEIS. Please explain if one is superior in providing protection of sensitive resources or if they would accomplish the same goal. Also please indicate if each would prevent further loss and fragmentation of habitat

due to support facilities such as access roads, pipelines and electrical transmission lines.

Comment. Alternatives C and D do not provide protection for Mohave Ground Squirrel habitat linkages through the larger, well vegetated canyons that connect Rose Valley with Cactus Flat and McCloud Flat. These additional linkages should be identified and included in a revised description of Alternatives C and D.

Comment. Given there is little or no groundwater available from Rose Valley to support exploration and development of geothermal resources, we believe that Alternative B (no geothermal development) is the most realistic and reasonable one under consideration. BLM's preferred alternative (Alternative C – allow exploration and development with the provision that sensitive areas would be protected by a no surface occupancy stipulation) is inappropriate because there is insufficient water in Rose Valley to support sustained geothermal operations in the proposed HGLA.

Furthermore, given that BLM considered, but rejected air or dry cooling as infeasible under the Reasonable Development Scenario, the rationale for selecting Alternative B as the preferred alternative in any final decision is even stronger.

9. Desert Renewable Energy Conservation Plan (DRECP)

The proposed HGLA is within the DRECP area. Planning for renewable energy development on public and private lands within this area has been underway since 2009. Lead agencies in the planning process include the California Energy Commission, California Department of Fish and Game, U.S. Fish and Wildlife Service and the BLM.

The DEIS for the proposed HGLA contains a single reference to the DRECP and is limited to visual resources affected by the proposed HGLA (*see* DEIS, Chapter 3, page 96). No information is provided on planning for conservation of biological resources or how the proposed HGLA is related to or would be integrated with the decisions stemming from the DRECP once it is finalized.

Comment. The DRECP documents to date include, but are not limited to, the preliminary conservation planning framework and strategy, and associated maps showing areas of high and moderate biological resources sensitivity throughout the planning area. The proposed HGLA is located in a preliminary biological reserve for conservation due to the occurrence of high sensitivity biological resources. In

addition, the entire proposed HGLA is located within the area identified for conservation and recovery of the Mohave Ground Squirrel in the DRECP Preliminary Conservation Strategy.

Comment. The planning, analysis and decision processes for the proposed HGLA and the DRECP need to be integrated. Given the importance of the DRECP in providing efficient permitting for appropriate renewable energy projects over an extended time period, we suggest that the geothermal leasing decision for the proposed HGLA could be postponed until such a time as the DRECP is finalized, and such a decision should be consistent with the DRECP. Based on preliminary planning documents under review and consideration for the DRECP, there is a strong indication that the proposed HGLA will be identified as a biological reserve intended to conserve at-risk species and their habitat, and primarily the Mohave Ground Squirrel.

This concludes our comments on the DEIS for the Proposed HGLA. Please contact us if you have questions or need clarification of any issues and our recommendations. We appreciate the opportunity to review the DEIS and provide comments.

Sincerely,

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CENTER for BIOLOGICAL DIVERSITY Because life is good.

working through science, law and creative media to secure a future for all species, great or small, hovering on the brink of extinction.

VIA ELECTRONIC MAIL

August 9, 2012

Peter Godfrey, HGLA Project Manager
California Desert District Bureau of Land Management
22835 Calle San Juan de Los Lagos
Moreno Valley, CA 92553
Via email: pgodfrey@blm.gov and jchilders@blm.gov

Re: Comments on Draft Environmental Impact Statement for the Proposed Haiwee Geothermal Leasing Area

Dear Mr. Godfrey,

The Center for Biological Diversity ("Center") is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 43,000 members throughout California and the western United States, including members that live and/or visit the vicinity of the proposed Haiwee Geothermal Leasing Area. These comments are submitted on behalf of our board, staff and members. The Center provides these comments on the Draft EIS for the Haiwee Geothermal Leasing Area, 77 Fed. Reg. 27478, and incorporates by reference herein our earlier scoping comments submitted on Nov. 9, 2009, and letter submitted on July 16, 2012.

The development of renewable energy generation and adequate transmission capacity for that renewable energy is a critical component of efforts to reduce greenhouse gas emissions, avoid the worst consequences of global warming, and to assist California in meeting emission reductions standards. The Center strongly supports the development of renewable energy production, and supports the generation of electricity from geothermal power, in particular, and truly necessary transmission upgrades to support that power production. However, like any project, proposed geothermal power projects must be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitats to the greatest extent possible through careful siting, planning, and design. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitats, can renewable energy production be truly sustainable.

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The Center joins the comments submitted by Defenders of Wildlife, Sierra Club, and Kerncrest Audubon Society on August 2, 2012, concurs with the comments provided by Rose Valley Properties, and provides the following additional comments.

The failure to adequately addressed impacts to water resources by BLM in the DEIS renders the document inadequate under NEPA as does the BLM's failure to provide any alternative that would ensure conservation of water resources is prioritized. The proposed plan amendment which would allow for significant impacts to water resources is also inconsistent with FLPMA which requires BLM to prevent unnecessary or undue degradation of public lands. 43 U.S.C § 1732(b). The BLM has failed to show that it is necessary to approve either the leasing area or the pending leases at this time or that BLM has fully explored other suitable alternatives, including alternative geothermal technologies which use far less water.

The proposed plan amendment is inconsistent with FLPMA's planning provisions which require that in developing and revising land use plans, the BLM consider many factors and "use a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences . . . consider the relative scarcity of the values involved and the availability of alternative means (including recycling) and sites for realization of those values." 43 U.S.C. § 1712(c). By failing to coordinate and integrate this planning process with the ongoing DRECP plan amendment process and Solar PEIS process the BLM has failed to comply with FLPMA.

In fact, the current proposal could undermine coordinated planning in the CDCA and the Center is concerned that that no effort has been made to integrate this planning process with the ongoing Desert Renewable Energy Conservation Plan process and Solar PEIS which are addressing renewable energy development throughout the California Desert Conservation Area. Both of those pending plan amendments will result in additional CDCA amendments to accommodate renewable energy and should be coordinated with this process. Coordination with the DRECP is particularly critical where, as here, the proposed leasing area and the pending leases may significantly affect species and resources that will also be significantly affected by proposed development of other renewable energy projects in the area.

The proposed plan amendment is also inconsistent with the FLPMA provisions which contemplate that BLM will prepare and maintain adequate inventory data on the resources of an area and that information be used to inform the planning process. 43 U.S.C. § 1711(a); 43 U.S.C. § 1701(a)(2). In failing to prepare and maintain an inventory of public land resources, BLM has also failed to adequately address the resources of this area in reviewing the proposed plan amendment and pending leases. *See Center for Biological Diversity v. Bureau of Land Management*, 422 F.Supp.2d 1115, 1166-67 (N.D. Cal. 2006) (discussing need for BLM to take into account known resources in making management decisions); *ONDA v. Rasmussen*, 451 F.Supp. 2d 1202, 1212-13 (D. Or. 2006) (finding that BLM did not take a hard look under NEPA by relying on outdated inventories and such reliance was inconsistent with BLM's statutory obligations to engage in a continuing inventory under FLPMA).

Given the shortcomings of the DEIS, a revised or supplemental Draft EIS is clearly needed and must be circulated to the public.

Thank you for considering these comments on the DEIS. The Center looks forward to reviewing a revised or supplemental Draft EIS.

Sincerely,

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